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NATIONAL ASSOCIATION
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COST ACCOUNTANTS
YEAR BOOK
1940

PROCEEDINGS OF THE
TWENTY-FIRST INTERNATIONAL COST CONFERENCE

New Hotel Jefferson
St. Louis, Missouri
June 23, 24, 25, 26, 27, 1940



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SESSION I

RECENT INVENTORY DEVELOPMENTS AND ACCOUNTING FOR GOVERNMENT ORDERS

TUESDAY MORNING, JUNE 25, 1940

HARRY E. HOWELL, Controller, Grinnell Company, Inc.,
Providence, R. I., *Chairman*

Presiding Officer at all sessions, President C. HOWARD KNAPP,
President, Clyffside Brewing Co.,
Cincinnati, Ohio

PROGRAM COMMITTEE

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of Technology, Boston, Mass., *Chairman*

LAWRENCE DOWNTIE, General Auditor, Kelsey-Hayes Wheel
Company, Detroit, Mich.

DAVID HIMMELBLAU, Head of the Accounting Department,
Northwestern University, Chicago, Ill.

HARRY E. HOWELL, Controller, Grinnell Company, Inc.,
Providence, R. I.

CLINTON W. BENNETT entered the professional accounting field in 1916, following experience as a cost engineer in private industry. For four years following 1925, he was General Manager of the Robert D. Mason Co of Pawtucket, R. I. At the end of this period he returned to public work as Manager of the Cost Engineering Division of Cooley & Marvin and is now a Partner of that firm. Mr Bennett has been a member of N.A.C.A. practically from its inception and is a Past President of the Boston Chapter. He is also a member of the American Society of Mechanical Engineers, the American Institute of Accountants and the Massachusetts Society of Certified Public Accountants. He is a CPA of Massachusetts and New Hampshire. Mr. Bennett has contributed a number of articles to the *N.A.C.A. Bulletin* and for the technical press. He has been a frequent speaker before chapter meetings and at last year's Convention at Atlantic City led the group discussion on Inventories.

DONALD M. RUSSELL is a Certified Public Accountant, a member of the American Institute of Accountants and Resident Partner of Lybrand, Ross Bros. & Montgomery at Detroit, Michigan. He graduated from Worcester Polytechnic Institute in electrical engineering, B S., 1913, E E, 1916. After one year at the Harvard Graduate School of Business Administration (1916-17) he entered the U. S Naval Reserve Force in the Pay Corps. He was assigned for the greater part of his service of 26 months as Assistant Supervising Cost Inspector for Mine Sweepers on cost-plus contracts. He joined the Philadelphia staff of Lybrand, Ross Bros. & Montgomery in May, 1919; he became a Partner of the firm in 1929 and was transferred to the Detroit office in 1934. He has served N.A.C.A. as Vice President of the Philadelphia Chapter and President of the Detroit Chapter.

RECENT INVENTORY DEVELOPMENTS AND ACCOUNTING FOR GOVERNMENT ORDERS

The opening session of the Twenty-first International Cost Conference of the National Association of Cost Accountants, held at the New Hotel Jefferson, St. Louis, Missouri, was called to order on Tuesday morning, June 25, 1940, at nine-thirty o'clock by the President, C. Howard Knapp.

PRESIDENT KNAPP: Another year has rolled around and we find ourselves about to open this Twenty-first Annual Cost Conference. What a year it has been, particularly in these recent months, and how fortunate we are that we can meet calmly to discuss vital matters of business and, at the same time, engage in social activities that make these conventions such high spots in memory as the years go by.

It is my duty and pleasure to officially open this Twenty-first Annual Cost Conference, which I now do. I feel, however, that I would be remiss in my duty should I fail to express the feeling of gratitude and thanksgiving we all have that we are citizens and residents of this great republic, where men may gather and hold meetings of this sort to discuss problems pertaining largely to their own personal affairs.

Across the ocean conferences, both public and private, are being held, the sole purpose of which is to develop plans and schemes for the destruction of life, property and happiness. Thank God that the purpose of this conference is to develop a technique and develop new ideas along constructive lines; furthermore, that we live in a place where meetings of this sort may not only be held, but where they are also encouraged. However, let all of us give thought to the fact that we must not be too complacent about this splendid position in which we find ourselves. Within the last month or two we have seen a wonderful illustration of the folly of believing that any nation can be so strong and so powerful that it cannot be crushed.

Probably to a greater degree than ever before, man is living in a changing world. This new order of things in which we find our-

selves is bound to bring a great many problems into our lives, both from a business and a private, personal standpoint. These problems are important ones which must be solved. Fortunately, our particular niche in this changing order of things, the field of accounting, is one which has gained a great deal more importance in the few years just past, and is bound to continue to become more important as time goes on. I can think of no better way to advance the activity of accounting than to have conventions and conferences of this type, so that the seed of new ideas may be nurtured here and that we may add a great deal to our fund of knowledge on accounting subjects.

We have been exceedingly fortunate in that a most capable Committee has been at work on the preparation of a program for our technical sessions since last October. That Committee consists of Wyman P. Fiske of Boston, as Chairman; Lawrence Downie of Detroit; David Himmelblau of Chicago; and Harry E. Howell of Providence. They have streamlined the program for you, which I know will appeal to all of us.

It is not my duty or intention to make any comment upon the program. Most of you have already read something of the general character of that program, and whatever comments are necessary will be made by members of the Committee. It is, however, both a duty and pleasure to welcome you all to this Twenty-first Annual Cost Conference held here in St. Louis and, furthermore, I am sure all of us who are privileged to be here feel that we will be greatly enriched in having been among those present.

Now, it is a pleasure to present to you Mr. Wyman P. Fiske, Professor of Accounting, Massachusetts Institute of Technology, of Boston.

CHAIRMAN FISKE: My part in this program is to be very brief. I feel it is hardly necessary for me to comment at length upon the program which your Committee has prepared, since you already have detailed information on it.

I might describe briefly what the Committee had in mind in building the program. In the first place, the success last year of the discussion groups convinced us that we should repeat the idea, and that we should extend it. So we are planning to devote this afternoon and tomorrow afternoon to group discussions, in which we hope you will be able to exchange experiences on problems which are of interest to you.

The morning sessions today and tomorrow will be devoted to strictly technical problems, which will be described to you by the respective chairmen of the sessions. On Thursday, we plan to devote the entire day to a discussion of a problem which was suggested to us by our members rather than by the Committee, namely, the problem of co-operative industry effort; in other words, what can industry do co-operatively in the direction of developing cost methods, cost information, and the distribution of the same?

We are following again our usual practice of having the three-day sessions in charge of members of the Committee. My primary job is to introduce to you the members of the Committee who have developed the day's session, the men who have done the work of contacting the speakers and arranging the details, which we hope add up to a successful program.

First of all, proceeding in reverse order, I would like to introduce the Chairman of the Thursday session, Lawrence Downie, who is Chief Factory Accountant and Auditor of the Kelsey-Hayes Wheel Company.

The Wednesday session is in charge of Professor Himmelblau, who is Head of the Accounting Department of Northwestern University, as well as head of his own accounting firm.

The Chairman of the session today is a man who has been long active, as have the others, in Association affairs, a man who, when absent from one of the Committee meetings, was drafted by the balance of the Committee to present a paper at one of the sessions—a rather mean trick, in my opinion, but we took advantage of his absence and his obvious capabilities for the job.

The Chairman of today's session, who will introduce the speakers, is Controller of the Grinnell Company, and has been nominated as Vice President of the Association. I am pleased to introduce Harry E. Howell and to turn this meeting over to him to conduct.

CHAIRMAN HOWELL: The subject of "Inventories" seems to be of perpetual interest to cost accountants. The Program Committees over the years have found this subject forcing its way into the program in spite of their efforts to find something new and interesting. The reason for it is that there is so very much to learn about inventories.

Our first speaker, whose subject is "Recent Inventory Developments," is Clinton W. Bennett, Partner of the firm of Cooley & Marvin of Boston. It has been my very great pleasure to have numbered

Mr. Bennett among my personal friends for many years, and I can tell you that he has a very sane and liberal approach to all problems, that he has a charm of manner and a way of thinking lucidly that make his counsel of very great value.

It is, therefore, a personal pleasure and a privilege to introduce the speaker, Clinton W. Bennett.

RECENT INVENTORY DEVELOPMENTS

CLINTON W. BENNETT

Partner, Cooley & Marvin,
Boston, Mass.

AFTER listening to my old friend, Harry Howell, introduce the speaker, I find great difficulty in recognizing him.

The subject of "Inventories," as Mr. Howell has said, has been very much talked of recently. It is one accounting subject which, perhaps more than any other, has created national interest. In fact, the business community has been rather surfeited with ideas on inventories almost to the point that business men have arrived at the conclusion that we cost accountants have developed some new and strange formulas. Furthermore, in some quarters, those cost accountants who have not hopped on the band wagon to declare their allegiance to certain new ideas have been considered reactionaries. It so happens that I have sponsored no particular procedure or school of thought, and I feel particularly privileged and happy to be here today to discuss this question of inventories with you.

Successful football coaches find it necessary at times to go back to fundamentals. I am going to try to do that with you this morning briefly, because I think in that way it may perhaps be possible for us to visualize better some of the new ideas and procedures, and co-ordinate them more clearly with our established thinking and practice.

In doing that, I hope I will have better success than my friend, the psychologist, who was lecturing to a certain high school class. He said, "Now I want you to listen to this carefully. The Atlantic Ocean washes the eastern shore of the United States. The Pacific Ocean washes the western shore of the United States. The Washington Monument is 555 feet high. How old am I?"

There was an awkward pause. "Come, come," said the lecturer. "Somebody ought to know that."

Finally, a young fellow in the front row said, "I know."

"All right, how old am I?"

"Well," said the youngster, "you are forty-two."

"That is right; that is absolutely right," said the lecturer. "That is remarkable. Will you tell this class by what process of deduction you arrived at this correct conclusion?"

"Sure," said the kid. "I have a brother in the bug house who is twenty-one, and you are twice as crazy as he is."

Fundamental Purpose of an Inventory

First of all, what is an inventory, and why should we take one? I think perhaps we have too often confused a going concern with a concern in reorganization that is interested particularly in showing good assets. Because the balance sheet has been used largely as a basis for credit granting, we have been prone to emphasize the inventory as a current asset for valuation purposes, and as a consequence have placed undue emphasis on the balance sheet as contrasted with the profit and loss statement. Fundamentally, the inventory simply represents unrecovered costs of one period to be applied against the sales of a subsequent period. It is, if you please, in the same category as deferred charges from one period to another. Unless we regard the inventory in that light, we can easily get off the track in our ultimate thinking on how it should be handled. As a matter of fact, with the exception of readily liquid items, all of the assets on the balance sheet of a going concern represent unrecovered costs or deferred charges to future operations.

Physically, business knows no fiscal years, but from an accounting standpoint it is essential to have certain breaking points to find out where we are going and what we have been doing. So we have the fiscal year or fiscal period, and in order to arrive at the operating results of the period we take an inventory. That inventory is not fundamentally for purposes of setting up a balance sheet value, but is required primarily for the purpose of determining the results of operations.

Obviously, if the inventory is properly taken for purposes of determining the results of operations and for purposes of carrying forward unrecovered costs, the figures will be satisfactory for balance sheet

purposes. But there is this fundamental distinction—valuation theory versus unrecovered costs theory of inventories—that I feel should be emphasized at the outset as a prelude to what I may say later on.

Valuing the Inventory

What about the valuation of the inventory? The Internal Revenue Code enacted February 10, 1939, lists two fundamental inventory requirements. These requirements provide that inventories shall be taken on a basis that will: (1) conform to the best accounting practice in the trade or business, and (2) most clearly reflect income. Hence, determination of income is the fundamental reason for having the inventory. Furthermore, the Code implies and the regulations thereunder state that consistency in inventory practice is more important than the particular method of valuation that may be used. I would like to stress the importance of consistency because, while I do not advocate incorrect pricing or incorrect procedures, I do say that from the standpoint of long-range accounting, consistency, even though some of the procedures may not be in accordance with the best practice, will often produce better results than will a constant shifting from one good plan to another good plan.

Fundamentally, the taxpayer continues to have a choice of two basic methods of inventory valuation. One is cost, and the other is cost or market, whichever is lower. Cost can be considered as including: (1) actual or average cost; (2) the retail method; and (3) the elective method, popularly known as the last-in, first-out method.

Therefore, from a practical standpoint, there are four methods of inventory valuation: (1) actual or average cost, (2) the retail method, (3) the elective method or last-in, first-out, and (4) our old friend, cost or market, whichever is lower. These are the methods normally recognized by the Internal Revenue regulations. Also, they are the only methods generally recognized by the business community. Thus it is apparent that the Federal taxing authorities follow the procedures that have been found most desirable by business and the accounting profession in stating income.

Let us consider these four methods briefly.

Actual or Average Cost Method

The actual or average cost method includes the old first-in, first-out actual cost procedure. Average weighted costs would also fall in this

classification. In using this method, obsolete goods are priced at values which they are expected to be worth, and the loss so determined is deducted in a lump sum from the total inventory.

Market values are not considered here. The actual cost method is seldom encountered in practice, and we hardly need to consume any amount of time in discussing it.

Retail Method

The retail method is a method developed for a specific situation, the retail business. Under this method, inventories are priced at actual offering selling prices, which are reduced by average mark-ups, according to types of merchandise, to arrive at the purchase costs. Potential losses on obsolete goods are therefore automatically determined. Years of experience have shown that the retail method is an excellent method for the type of business for which it was developed, namely, the retail business, but it has no general application outside of the retail field.

Last-In, First-Out Method—General Description

Now comes the last-in, first-out method. This method has received a great deal of publicity in the last few years. The 1938 Revenue Act made a last-in, first-out method available to certain classes of taxpayers. The 1939 Revenue Act revised the 1938 innovation considerably but extended its availability to all taxpayers, regardless of their lines of business. This method resembles the base stock method, so-called, and the replacement method. They are all intended to apply to the same general situations. The last-in, first-out method, so-called, has created many discussions and debates, numerous papers have been written about it, and some of the best of these have been published in our own *N.A.C.A. Bulletin*. Not a few of its opponents seem to have worked themselves into states bordering on semi-frenzy in pointing out its weaknesses. Be it said for its proponents, on the other hand, that they have been particularly modest in their claims for the results to be obtained under the last-in, first-out method. They have been careful to point out that it applies to specific situations only, like the retail method.

In the *Journal of Accountancy* for June, 1940, Maurice E. Peloubet, who for a number of years has been a leader in advocating the

last-in, first-out method, had this to say: "The comparatively limited application of the last-in, first-out and related methods has been recognized as long as the method has been discussed or advocated."

Advantages and Disadvantages

What is the objective of the last-in, first-out method? Just this: to apply current costs to current sales. Under this plan, it is intended that the profit and loss statement shall always show operating results on the basis of replacement cost. It is intended to equalize earnings one year with another, to cut off peaks on the up side and valleys on the down side. No one can properly say that these are not desirable objectives and certainly their attainment would mark a decided milestone in accounting progress.

Furthermore, the last-in, first-out method has been used by certain large companies for many years, and they have found it applicable to their own problems. However, before you adopt the last-in, first-out method, you should definitely determine whether or not your business is one to which it applies. To consider the adoption of the method, a concern should: (1) use substantially uniform raw materials; (2) have a preponderance of material cost in the finished product; (3) have a relatively long processing period or a slow turnover; (4) have no appreciable style factor. Unless your business fits into these four requirements, you ought not to adopt the last-in, first-out method.

Mr. Peloubet points out, further, that what the method is concerned with is a constantly and necessarily maintained investment in goods of an identical character. That is important. That is at the root of the whole business—a maintained investment in goods of an identical character.

One possible disadvantage of the last-in, first-out method is this: If, when you adopt it, your inventory is valued at a high base price and you run into a period of declining prices, you may be pricing current sales at values below those at which your base inventory is being carried. Thus for balance sheet purposes, under those conditions, in order to have your balance sheet represent an inventory at the lower of cost or market, which is of course what it should be shown at for credit purposes, you will have to set up a reserve on the balance sheet for the difference between the value at which the inventory is carried and the value at the lower of cost or market. Obviously, since the Federal tax law requires that when you adopt the method it shall be

used for stating income, you will have to charge this reserve against surplus and not against profit and loss. In a situation of that kind you would have the profit and loss statement reflecting one figure, while on the surplus statement there would appear an additional charge for the write-down of inventories to the lower of cost or market.

Tax Regulations and Problems

I might touch briefly on some of the tax requirements as provided by the regulations under the Revenue Act of 1939. This may be a little technical, but I think it is important to anyone considering adopting the method.

For the first year this method is used, the cost of the quantity of goods of the specified type remaining on hand, which was in the opening inventory, is adjusted to an average cost of goods based on the preceding year's prices at a unit cost equal to the actual cost of the aggregate divided by the number of units on hand, such actual cost of the aggregate being determined pursuant to the inventory method employed during the preceding year.

This means that fundamentally you arrive at an average cost for the opening inventory. Goods of the specified type—in other words, the goods to which you are going to apply the method—on hand at the close of the taxable year in excess of what were on hand at the beginning, shall be included in the closing inventory, regardless of identification with specific invoices, at either (1) actual cost of most recent purchases or production, or (2) actual cost of earliest in order of purchases or production, or (3) an annual average unit cost determined on a unit basis by dividing the aggregate cost of all the goods purchased or produced during the year by the total number of units therefor, or—and this is important—(4) "pursuant to any other proper method which, in the opinion of the Commissioner, clearly reflects income."

Whichever of the foregoing cost bases is adopted and approved by the Commissioner must be followed as long as the elective inventory method, so-called, is used. In order to use the last-in, first-out or elective method, the taxpayer company must show that in the first year and each subsequent year when the method is used, it has not used any other basis to ascertain income, profit and loss, for credit purposes, or for reports to shareholders, proprietors, partners, or beneficiaries, with the exception that if the taxpayer wants to price

his inventory at market, he can do so. If he elects to use the method, he must file an application to do so within ninety days from the year's end for the first year in which the elective method is used. Application Form 970 (revised) is to be used for this purpose. This application to use the method must be accompanied by an analysis of the inventories for the beginning and end of the taxable year, and for the beginning of the previous year. In the case of a manufacturer, this analysis must show in detail the manner in which costs were computed with respect to raw materials, goods in process and finished goods, segregating the product into natural groups on the basis of either (1) similarity in factory processes through which they pass; (2) similarity of raw materials used; or (3) similarity of style, shape or use of finished products.

The Commissioner's approval of this method will be determined upon examination of the taxpayer's returns. The change to the elective method may not be made without agreement, when making application for its use, to such adjustments incident to the change to or from such method, or incident to the use of such method, in the inventories of prior years or otherwise, as the Commissioner upon examination may determine necessary in order that the true income will be clearly reflected for the years involved.

General Opinion

I say again that if your business falls in the category enumerated, whereby the last-in, first-out rule definitely applies, then I would advise you to give the method serious consideration because, although these regulations sound rather complicated and the Commissioner requires very definite specified information not only at the close of the present taxable year and at the beginning of the present taxable year, but also at the beginning of the previous taxable year, I think under favorable conditions it has much to commend it. But unless your business very definitely falls within the four requirements outlined previously, you had better steer clear of the method. In any event, and this should be emphasized, the last-in, first-out or elective method has no general application.

It should be remembered that existing Federal tax laws which allow the taxpayer to carry losses forward as deductions against income of the two succeeding years, provide a considerable measure of relief from possible income tax inequalities. This provision in the

present Federal law is a decided step in the right direction. As a means of furthering the development of sound and equitable bases of corporation taxation, I suggest the program which was advocated for years by one of our very prominent members, the late Chester Crandell of Boston, namely, that income of corporations should be taxed not on the results of a single year, but on the average income of from three to five years. If that could be accomplished, we would have a much more equitable method of corporation income taxation, one that would largely eliminate the need for any type of inventory valuation other than the one best adapted to the requirements of the particular business.

Cost or Market, Whichever Is Lower Method

Now we come to our old friend, cost or market, whichever is lower. As a matter of fact, this method is the one most generally used and, regardless of criticism, it still applies to more businesses than does any other. I think one of the reasons why it has received so much criticism is that we haven't used it correctly in many instances and, if you will allow me the use of a very bad pun, I think the method is suffering from the current European ailment: too much "Hit" and "Muss."

The lower of cost or market method of valuing inventories does not, critics say, provide a consistent basis. They say it writes down inventories when the market is below cost, but it fails to write them up when the market is above cost. If one looks at the balance sheet from the standpoint of a liquidating concern, that is a sound criticism, but we are considering inventories from the standpoint of a going concern. To a going concern, the income statement is of first importance, and the balance sheet is of secondary importance, under the accounting school of thought that seems to be in the ascendancy, and to which I heartily subscribe.

The fundamental objective in taking an inventory, therefore, is to determine the operating results, and if the inventory is found to be worth less than cost, it certainly should be valued at market as a deferred cost to future sales, because in the subsequent period the selling price of the goods will undoubtedly be lower as a result of the drop in the market value of the goods in the inventory. No one could argue soundly that it is good accounting to carry forward inventories at valuations above replacement market to be applied against future

sales which probably would be made at lower selling prices. That certainly is not sound from an accounting standpoint and it would be equally bad business. When we use the lower of cost, or market, valuation we are realistically viewing the problem. If the prices of raw materials go down, then the resulting inventory loss certainly applies against all of the sales made in the past period and should be accordingly absorbed, and that loss will be absorbed under the correct application of the lower of cost or market method. Therefore, I reiterate again that in the great majority of businesses the lower of cost or market is the inventory valuation method to use, but it needs to be properly and correctly handled with a full appreciation of the principles upon which it rests.

Determining Inventory Quantities

One of the problems always present in taking and controlling inventories is that of quantity determination. We still have many industries, many businesses, that, having no perpetual inventory, declare a rest period at the end of the year, close down for a week and take inventory.

I remember, when I was a sort of cub engineer in one large New England outfit, that they always took inventory between Christmas and New Year. That was always the coldest period of the winter, and inasmuch as we were just office workers and didn't need any heat, they shut the heat off. They heated up for the mechanics and the producers, but we were just inventory takers. On one particularly cold day we were out taking inventory in a room where there were barrels and half-barrels and quarter-barrels of fittings. There was a scale handy but it was too much work to weigh the fittings. It was late in the day, and cold, so we conceived an excellent plan. There were six of us in the group, so we all guessed at the weight of the fittings, put each guess down on a piece of paper, added them up, divided by six, and that was the answer. When we arrived at that excellent conclusion, we all had a drink in celebration.

Without perpetual controls, too many inventories are taken in that manner. If you have no perpetual control, then by all means you should take your inventory under the double check method, whereby you have pre-numbered slips controlled in the office. One fellow makes the count and puts the slip with the stock, and another fellow comes around, picks up the slip and checks the quantity and descrip-

tion indicated against the physical stock. Unless you do something of this kind, you may have the same result as we had with the fittings inventory.

Percentage tests on inventory quantities are helpful, but they are not at all conclusive. I recall the case of an inventory on which the auditors were making a general check, and the percentage test applied splendidly, but one fellow sensed something wrong for some reason or other and dug up a \$50,000 difference, simply because the total quantities were so great that the percentage test lost its value and was not affected materially by this error.

Internal Audit and Control

A major phase of inventory control is the internal audit. Control should consist of (1) continuous inventory controlling accounts, (2) physical control, and (3) the most practical perpetual detail control records that can be used. Every business, regardless of size, should have perpetual inventory controlling accounts for major inventory classifications, so that when the inventory is taken, definite knowledge will be had as to whether it is within a reasonable figure of the amounts that should be on hand. I repeat, therefore, that every manufacturing business should have these perpetual inventory control accounts. Every business should also have physical control of inventories. By "physical control of inventories" I mean a situation where specific persons are delegated with responsibility for the inventory—supplies, materials, finished goods, in other words, all classes of inventories. Whether or not stock rooms are used, some person or persons should have it as part of his job to have charge of inventories and be responsible for them. That is manual physical inventory control, and it is most essential.

When we come to detail perpetual inventory records, we must have the best we can obtain under the particular circumstances, always recognizing the fact that detailed perpetual inventory records cannot be applied universally because, as we all know, there are times when the detail work involved would be greater than the value of the system. In some instances, these detail perpetual inventory records should reflect values, but they are not essential in the average business. Quantities, not values, are the important things. It is essential to know what we have in quantities, and in the average business the

perpetual inventory cards or sheets should not attempt to go beyond this point.

This business of manual control of inventories also has a vital bearing on the internal check or internal audit control. No one employee should handle a complete cycle of work. No receiver and no shipper should have charge of stock. I lay that down as a fundamental principle, regardless of the size of the business. It may be that you feel, because your business is not big, that it would be too costly to split up the duties of a man who may be doing that combined job, but it wouldn't be at all surprising if you are paying without knowing it, the cost of one or two more clerks many times over.

I remember one situation that arose just last year in a large plant. The general manager felt one man could handle the receiving and storing of a particular class of raw materials—not the shipping, just the receiving and stores—and he couldn't be argued out of his position. An engineer got to boring around there, and said, "Why is your waste so high?" Nobody had thought of that. So the engineer started digging into the waste situation and found that this combined storekeeper and receiver was in collusion with a vendor, was approving the receipt of goods that never came into the place and then was dividing the loot with this representative of the vendor. This collusion cost that company \$60,000 in eighteen months. That is a fairly substantial storekeeper's salary.

This basic principle of internal control, namely, never to have a single individual handle a complete cycle of work, applies to every business. It is a fundamental principle of internal control, and it applies to inventories.

Responsibilities of the Chief Accounting Officer

Every cost accountant in charge of costs, every chief accounting officer, has a definite responsibility for the internal control in his company. What happened to one controller is well illustrated by this Associated Press dispatch out of New York, May 17: "The former controller of the 87 million dollar McKesson and Robbins Corporation was convicted tonight of violating the Securities and Exchange Act by a Federal Court jury which acquitted two former directors of complicity." The controller took the rap. So let no man say that the chief accounting officer or the controller hasn't definite responsi-

bility for the internal control, the method of costing, and the method of keeping inventories and valuing them, in his particular business.

Purchasing Control

There is one particular point of fundamental importance I would like to touch on briefly, and that is purchasing control. How often we find concerns spending a lot of money controlling inventories, plugging up loopholes here and there, and then throwing all the savings, plus a lot more, down the sewer, trying to beat the gun on commodity prices!

I know of too many instances in which the chief executives carefully budget purchases in accordance with requirements, particularly after taking a bad licking in the market; and then the next time prices start to rise they forget all about the budget and go ahead once more on intuition.

Nearly every business has seasonal periods in which prices of its raw materials rise and fall. There should be some safeguard taken against this, but I say without fear of successful contradiction that no business ever made money by trying to beat the gun on rising commodity prices in a speculative way over a cycle. It isn't worthwhile.

The cost accountant is in the best possible position to advise the management as to the quantities which should be bought because his records should constantly reflect usages in comparison with sales, and also the effect of seasonal variations. And, with all due respect to our friend the purchasing agent, the cost accountant, if he is on the job, should be in a better position to tell the purchasing agent when to buy goods than the purchasing agent is able to determine for himself.

I am reminded of my friend, the Vermont farmer, who had a horse for sale. A city man came out to look at it. The farmer said, "There are two things about this horse that you should know."

The city man said, "What are they?"

The farmer said, "There is one thing I will tell you now. The second thing I won't tell you until you have bought the horse, if you buy it."

"All right," replied the city man, "what is the first thing?"

"Well," said the farmer, "the first thing is, when you let this horse out in the pasture it is almost impossible to catch him."

The city man said, "That doesn't make any difference to me, I will keep him in the stable all the time. I will buy him."

"All right," the farmer said, "I thought you should know about it."

So the city man bought the horse and paid his money. "Now," he said, "what is the other thing about this horse I ought to know?"

"Well," the farmer drawled, "it is this: After you have caught him, he ain't worth a damn."

Sometimes I think that is the situation with a lot of our detailed inventory methods. We get so tied up in keeping detail records that we forget that perhaps we are losing substantial amounts through improper purchasing control, or because of unsound or inadequate internal check. They are all essential. They all form a part of the problem and if we are wise, we will not forget that the absence of one of them may cause the entire structure to collapse.

Standard Costs and Cost Variances

Next, let us consider the cost system, because the inventory, particularly the inventory of work in process and finished goods, is no better than the cost system. With the exception of job shops, I believe a standard cost system applies to the average business better than any other plan of costing. I also believe that the inventory should be priced at the lower of standard or actual cost. Cost variance debits should be charged to profit and loss and cost variance credits should be credited to profit and loss, with the exception of the variance credits which apply against the inventories. The inventory would be priced at standard cost and if the actual costs for the fiscal period just ended have been lower than the standard costs, the inventory, obviously, should be reduced by its pro rata share of the resulting variance credits. The amount of these variance credits applicable to the inventory would be credited to an inventory reserve account and debited to the cost variance accounts. The remaining net cost variance credits would then go to profit and loss. Consequently, in all instances, the inventory would be on the basis of the lower of standard or actual cost, provided, of course, that these costs are not in excess of market values.

The cost standards should be determined not on the capacity of the plant to produce, but on the capacity necessary to produce the goods which the company reasonably can be expected to sell. That is the only sound method of standard cost determination. There can be a vital and fundamental difference between these two procedures.

Burden Determination

Now a word about burden determination. There has been, and still is, a school of thought which says that all burden should be divided into either manufacturing or selling, thereby eliminating the third factor of administrative expense. In pure theory, the proponents of this two-way burden classification are right, but if we adopt that method and use a resultant factory burden figure which includes not only all factory burden but the manufacturing share of the administrative expense also, in pricing inventories, we shall be inflating inventories to an improper degree.

From a practical standpoint, I believe that inventories can properly include burden which embraces regular factory expenses and salaries up to and including the plant manager, but nothing beyond that point. When we absorb administrative and general charges and salaries beyond the plant manager, we are absorbing charges in inventories that represent the sale of general burden to the inventory.

Theoretically, I question whether inventories should be allowed to contain all burden, even in this limited category. Fundamentally, every operating period should absorb all expenses of the business for that period, and consequently any burden absorbed in inventories in excess of direct costs would, under this conception, represent an inventory inflation and a resulting inflation of profits for the period. As used in this connection, the term "direct costs" includes direct material, direct labor and direct manufacturing expenses—all costs, regardless of their nature, which were incurred in producing the goods. These costs should rightfully be included in inventories, but I question whether there is any sound justification for absorbing any other burden in the inventory. I think this whole question of profit inflation by inventorying burden is a very important one to keep in mind and it deserves more study than it seems generally to have received.

Purchasing, Transportation and Handling Costs

The practice of adding purchasing costs, inward transportation expense and handling costs to raw materials is, I believe, subject to serious challenge in many businesses. Always excepting inward transportation charges on bulk goods—coal, pig iron, steel, etc.—it is my personal opinion that none of those items should be charged to

raw materials. Operating burden should absorb all purchase costs, all transportation-in charges excepting on bulk goods, and all handling charges, and the material should be carried in inventories at purchase cost only.

Industry Costs

In raising some of these points that can well be the subject of profitable discussion on this occasion, there is another question that very definitely arises and has a place in any inventory discussion, and that is the theory of industry costs. I am absolutely and unqualifiedly opposed to the theory of an industry cost, whereby a given cost is applied to all like products produced by the several manufacturers in an industry. The difficulty with that whole picture is that not only are the costs incorrect and highly misleading but worse still, that method stifles the free flow of goods. It gears the efficiency of the entire industry to that of the least efficient member of the industry; it stifles the initiative of the officials of the more efficient units because it makes it unnecessary for these outfits to go out and work hard, and as a result it cuts the profits of the strong and the fit by subsidizing the inefficiencies of the weak and the unfit.

Conclusion

It seems to me that we of the National Association of Cost Accountants must give more serious thought to the economic aspects of costs. We are of age. This is our twenty-first anniversary. We have had success beyond our wildest dreams. We are the largest organization of our kind in the world. We must realize that we are the costing advisers to the business community. To a great extent our decisions can be the most important ones in every business, provided we are grasping our opportunities.

I would like to leave this thought with you as a goal to shoot at in the years to come, now that we are of age: We must help business find ways and means to

Work longer plant hours, not shorter hours;
Produce more goods, not fewer goods;
Lower selling prices, not raise them;

and, as a result, get more goods to more people.

We have in the United States an economic system that is the marvel of the modern world. We have, as President Knapp pointed out this morning, a system in which we thoroughly believe, but which unfortunately is being challenged all over the world. If it is going to survive, if it is going to continue to grow in strength, we must work out this problem of making the possible output of our marvelous productive system available to more and more people through the distribution of more and more goods at lower prices, and there is no organization of individuals in the world better equipped to help American industry achieve that goal than the National Association of Cost Accountants.

Can we effectively meet the challenge?

CHAIRMAN HOWELL: Gentlemen, as you know, the speakers in the morning more or less keynote the discussions for the afternoon, and we have not anticipated a great deal of discussion this morning following the speakers.

I might point out to you that the Program Committee, as a fundamental starting principle, decided there were two types of programs that could be put on. One was to take subjects that everybody knew all about, wrap them in nice packages, and have every man here go home with that very contented feeling. Then he could go back and sleep for another year. The other alternative was to raise questions, provoke discussion, and send you home feeling uncomfortable. The Committee chose the latter approach. The result is that all the speakers are faced with the rather disagreeable problem of trying to shatter your defenses. Mr. Bennett has done a good job.

It would be advisable, I think, for you to write down any questions you may have had on Mr. Bennett's speech, or may have on the address by Mr. Russell. The purpose of the afternoon discussion groups, for those who haven't attended them, is to obtain the maximum amount of participation from the audience. The gentlemen who will head up these discussion groups act as moderators. They have an outline and will keep the problem before you all the time, but we want the bulk of the work to be done from the floor. Some of these questions might occur to you now, and the best thing to do is to put them down before you forget them.

The second speaker this morning has a subject which is of very great interest to us, the problem of handling orders received from the Government of the United States. The handling of orders which

are arising out of the defense program and the war orders from foreign countries have raised problems which take some of us back to the days of 1916, '17 and '18, and also to the ten years or so thereafter when we were fighting about amortization of war facilities, excess profits, and other matters. For those in the accounting field the last war didn't end in 1918—in fact, in some cases it hasn't ended yet. It does seem, however, that this experience has not been lost, because already very definite steps are being taken to make clear matters which, if they had been clear those twenty-odd years ago, would have saved a great deal of grief.

Our speaker is Donald M. Russell, Resident Partner of Lybrand, Ross Bros. & Montgomery at Detroit. It is my pleasure, and it is the good fortune of this convention, that I am able to present to you, Mr. Russell, who will discuss this technical and highly specialized subject.

PROBLEMS RAISED BY GOVERNMENT AND WAR ORDERS

DONALD M. RUSSELL

Resident Partner, Lybrand, Ross Bros. & Montgomery
Detroit, Mich.

MILITARY preparedness is bound to bring a military form of national organization, freely granted during the emergency and surely, as before, to be taken away when security has been re-established.

I believe, and this is an important credo for all of N.A.C.A., that business is not an institution sufficient unto itself, but a servant to the national well-being and that business and labor can and will make sacrifices of temporary gains, for the sake of defending and preserving our form of national government. The great problem of the moment is co-ordinating the sources of our economic strength toward the goal of a successful national defense. The pattern of this co-ordination is being forged daily in Washington with, of course, considerable noise from the clashing of conflicting ideas.

Co-ordination for National Defense

We learned certain lessons in 1917 and 1918, however, which have not been forgotten. We learned, for example, that Government Departments should not be permitted to compete with one another for the services of industry. The first step toward co-ordination, the organization of the Advisory Commission with powers delegated directly from the Chief Executive, holds high promise of success in the major problem of organization.

Foreign war orders have been placed in this country during the past few months to the reported amount of \$1,600,000,000. Aside from the provisions of the Neutrality Act, this business is free from regulation and profit control from the United States Government other than that ordinarily incurred for private contracts. National defense orders, however, which bid fair to surpass the volume of foreign orders, are at present subject to many complicated restrictions and controls.

Changing Conditions and Requirements

One would be rash to predict the changes in the forms of doing business that may be imposed. During the past few days, steps have been taken to waive the requirements for competitive bidding, the permitted margin of profit of 10 to 12 per cent has been challenged with a proposed reduction to 7 per cent and a return to an excess-profits tax based on invested capital has been proposed in Congress.

If war should come, questions of cost would become of very minor importance compared with victory; then orders may be received on a mandatory basis subject to subsequent determination of price on a basis of what is "reasonable." There is a demand at present for some revision of the Vinson type of contract which will permit the risks of unpredictable costs to be divided between Government and industry. Whereas, under the "cost plus ten" type of contract used in 1917 the *Government* stood the gaff for most of the cost of waste, inefficiency and inflation resulting from the demand for speed at any cost, *industry* will now have to watch its step very carefully if the present form of Vinson Act contract is continued, to avoid paying for such excess costs out of corporate capital. In my opinion, a type of contract which will return actual cost plus a fixed amount for profit with bonuses contingent upon deliveries in advance of schedule would be most equitable. If the bonuses were divisible, say 10 per cent to

the corporation and 90 per cent to the employees, there would be a powerful incentive for speed and efficiency.

Vigilance Needed

The type of contract specified by the Vinson Act, which we shall discuss in some detail, requires the contractor to state a fixed price; if his profit is greater than 10 or 12 per cent of the contract price, the excess is to be returned to the Government. If, however, his actual costs mount above the costs estimated when the fixed selling price was determined, the allowed 10 or 12 per cent profit may rapidly disappear and a loss may be incurred. Additional costs of production are typical of Government work in war times even without the effect of the rising spiral of prices that is to be expected after demand exceeds productive capacity.

Business men should not at present commit themselves rashly to fixed contract prices for such large quantities or so far in advance of possible delivery that they may be badly caught by a rising spiral of prices. Accountants should remember that after every national emergency is over the accountants in the Government are engaged for ten years or more in reconciling what has been done with what can be paid for under the law and under the authorization by Congress. It has happened that grave inequities could not be remedied for years, if at all, and at times they have been remedied only by the passage of special legislation, years subsequent to the event.

We will review the general provisions of the Vinson Act and related laws and regulations, so that we may have a foundation upon which to consider some of our accounting problems.

Vinson Act

The Vinson Act was passed in 1934, amended in 1936, and again in 1939. Another proposed amendment is now in Congress. This Act applies to all contracts from the Navy or War Departments for the construction of any complete Naval vessel or Naval or Army aircraft, or portion thereof. Contracts "for scientific equipment used for communication, target detection, navigation and fire control" and contracts priced at \$10,000 or less are exempt.

The contractor must agree to make a report to the Secretary of the Navy (or to the Secretary of War) upon the completion of each contract, showing the total contract price, the cost of performing the contract, the net income from the contract and the per cent of net

income to contract price. A copy of this report is to be attached to an annual report and filed with the Collector of Internal Revenue upon all contracts completed during the year; this report to the Treasury is due on the fifteenth day of the ninth month of the following year.

The contractor agrees to pay into the Treasury all profit in excess of 10 per cent of the contract price of any Naval vessel or portion thereof (12 per cent for Naval or Army aircraft or portion thereof). Net losses on Naval vessels or portions thereof can be carried forward and applied in reduction of the excess profit, if any, on similar contracts completed within the next succeeding year. Net losses *and also the deficiencies in the allowed profit* of 12 per cent on Naval or Army aircraft or portions thereof can be carried forward for four years.

The contractor agrees to make no subcontracts for the purpose of evading the Act, and to obtain agreements from all subcontractors receiving orders in excess of \$10,000 that they will be subject to the same conditions as the prime contractor.

The method of ascertaining the amount of excess profit to be paid into the Treasury is determined by agreement between the Secretary of the Navy, the Secretary of War and the Secretary of the Treasury, provided that excess profit to be paid in is to be reduced by any federal income tax paid or remaining to be paid upon such excess profit. The Treasury has issued T.D. 4906 and 4909 setting forth the method of ascertaining the excess profit.

Proposed Amendments to the Vinson Act

Amendments to the Vinson Act now before Congress (H.R. 9822 and S. 2464) propose that the limit for determining contracts subject to the Act be increased from \$10,000 to \$25,000. The object of this amendment is to widen the field of prospective bidders and stimulate production by lifting restrictions imposed by the Act. Navy representatives have testified that subcontractors are not willing to assume the accounting restrictions for orders of small amount.

The Secretary of the Navy will be authorized to advance up to 30 per cent of the contract price and to make further advances from time to time, all upon adequate security.

The Secretary of the Navy will be authorized to negotiate contracts for naval vessels and aircraft, also for machine tools and equipment, without competitive bidding. This is undoubtedly for the purpose of

speeding construction by elimination of the usual 60 to 90 day period for awarding bids.

The Secretary of the Navy and the Secretary of War may decide as to the necessity and the cost of special additional equipment and facilities required to facilitate the completion of any naval vessel or aircraft in private plants and the percentage thereof to be charged against the particular contract. This would be binding on the Treasury and will be treated as a reduction in the contract price for the purpose of computing the excess profit. This is the first official indication of willingness on the part of the Government to build up selling prices to finance extensions of plant. The carry-over provision for net losses on naval vessels will be extended from one year to four years. This is the same period as for naval and army aircraft; note, however, that it is not yet proposed to permit carry-over of deficiencies in profit on naval vessels.

It is reported that representatives of the Treasury favor reducing the profit margins from 10 or 12 per cent, based on contract price, to 7 per cent of the contract price. Even this amount will not be allowed if it exceeds 7.53 per cent of final contract cost. That is, all of the cost saved, plus the profit that would have been applicable to the cost if it had been spent, is taken by the Government. This proposal has been approved by the Senate Committee on Naval Affairs. These lower rates also apply to subcontractors.

Is 7 Per Cent a Fair Return to the Contractor?

In considering this question, it should be borne in mind that the Treasury disallows as *contract costs* numerous *corporate costs*, expenses and losses that must come out of the 7 per cent margin. There is interest on borrowed money, advertising, bad debts, strike expense, and an item that may be particularly important if the Government should take over 100 per cent of the plant capacity, i.e. all costs related to the selling organization which it may be impossible to cut off quickly. These items may easily reduce the contract margin of 7 per cent to effective corporate profit of 5 per cent. Then, there are the federal and state income and excess-profits taxes to come out of the remaining margin. With the new tax rates the 7 per cent allowed contract margin may wind up as 3.5 per cent. This question of whether this return is fair or not cannot be answered yes or no. It depends on how often the contractor can turn over his capital in a

year. Any allowance based on the selling price will be inequitable to some concerns because one business may require high investment in plant facilities and another only a low investment. It would be very desirable, theoretically at least, to make the profit allowance dependent upon invested capital.

I am inclined to believe that reducing the rate from 10 to 12 per cent to 7 per cent will bring about more unfair situations than allowing the present rates to stand and putting a ceiling on war profits by means of an excess-profits tax generally applied to all of industry.

Merchant Marine Act of 1936

Another Act quite similar to the Vinson Act is the Merchant Marine Act of 1936. This provides that profits in excess of 10 per cent of the purchase price shall be returned to the Maritime Commission. Subcontractors are also subject to the Act if their orders amount to more than \$10,000. It is provided in this law but not in the Vinson Act that no salary in excess of \$25,000 per year shall be considered as part of cost. Equipment for communication and navigation is exempt.

General Interpretation under the Vinson Act

There has been built up during the experience of six years under Vinson Act operation a body of interpretations and Treasury rulings which we must also consider. Many of these rulings will continue in effect even if the type of contract is modified.

If a prime contractor fails to require that a subcontractor agree to the provisions of the Act, he may be required to pay to the Government the amount of any excess profit found to be due by the subcontractor. A subcontractor has the same responsibilities in dealing with a sub-subcontractor. Failure to obtain agreements from subcontractors may give rise to contingent liabilities that should be expressed in the balance sheets of the negligent contractors. Giving notice informally would appear to be an excellent way to breed trouble and possible lawsuits for the future; it is written not only in the regulations but also in Section 3 of the Act that the contractor shall agree "to make no subcontract unless the subcontractor agrees to the foregoing conditions." What constitutes proper evidence of the agreement of the subcontractor is a matter requiring legal advice.

Regardless of this general requirement, the Treasury has ruled that it is also incumbent upon a subcontractor to determine whether

the provisions of the Vinson Act are applicable in his case. The subcontractor may hesitate to follow through the question with the prime contractor for reasons of policy, but for his own protection he should request a ruling from the Secretary of the Navy or the Secretary of War. In one such case, as a result of a request for a ruling, the Navy Department instructed its own Bureau of Engineering to compute for the benefit of a subcontractor the quantities of the materials furnished by the subcontractor which were required on a certain type of vessel and the proportion thereof used on the vessel for exempt equipment.

The contractor who attempts to split his orders for the purpose of keeping the amounts below \$10,000 will be like the description given by the negro boy who was walking through a cemetery reading headstones. He stopped before one which read "Not Dead, But Sleeping." He scratched his head and muttered "He sho' ain't fooling nobuddy but hi\$self."

The amount of each separate order is considered alone if the orders actually represent separate offers and acceptances. On all questions as to whether subcontracts may have been issued in amounts less than \$10,000 to evade bringing them under the Vinson Act, the matter of intent appears to be most important. The usual manner of issuing orders in connection with commercial work and the information in the hands of the prime contractor at the time the orders were issued, as to the necessity for further orders of the same kind to the same subcontractor would appear to be facts of considerable importance. The Treasury regulations have placed the burden of proof on the subcontractor to show that each order less than \$10,000 included in an aggregate of orders amounting to more than \$10,000 is a bona fide separate and distinct contract.

The Date of Completion

The dates of completion determine which contracts are to be pooled in any one taxable year; and the determination of the exact date of completion, therefore, becomes very important. The Treasury has ruled that the term "completion of the contract means the date of delivery of the vessel, aircraft or portion thereof covered by the contract or subcontract, even though the contract contains a clause providing that for the purpose of the Act the Contract shall be considered complete upon final payment."

The necessity for replacing defective parts after delivery or for

performance of work required after delivery, under a guarantee clause in the contract, does not extend the date of completion. This ruling differs from the corresponding ruling of the Maritime Commission for contracts performed under the Merchant Marine Act, as under that Act the date of completion is the date the last material is delivered or the last work performed. It is impossible to determine whether additional material will be delivered or additional work performed until final acceptance of the vessel. It appears, therefore, that it is necessary to wait upon final acceptance to close the contract, whereas under the Vinson Act the contract is closed at the delivery date with a reserve allowed in the cost for possible additional work.

Subcontracts for materials which do not become a component part of articles manufactured under a Vinson Act contract are not sub-contracts which are brought under the Act; for example, a subcontract in excess of \$10,000 for plans and drawings was held not to be a Vinson Act contract. A subcontract for welding electrodes was, however, held to be a contract for material *entering into the manufactured product*. Machine tools purchased for installation as equipment aboard a naval vessel were held to be subject to the Act, but machine tools purchased for use of the prime contractor on the construction of the naval vessel were held not subject. A subcontract for condenser tubes furnished to a subcontractor who was furnishing condensers to a prime contractor for a naval vessel was held to be subject to the Act.

Cost Interpretation under Vinson Act

The matter of cost interpretation on contracts under the Vinson Act is of particular interest to us. Exhibit A at the end of this paper is an outline of the costs as set forth in T.D. 4906 for Navy vessels and aircraft (substantially the same as T.D. 4909 for Army aircraft) and Exhibit A-1 sets forth a list of the elements of cost *not allowed* in Vinson Act contracts based upon the same regulations.

The revenue agents may be expected to adhere in their reports to the outline stated in Exhibit A as closely as they can. It would be good policy for the contractor to state the items in this grouping and to follow this terminology as far as possible in making the original reports. This will avoid unnecessary misunderstandings as to classification of accounts and terminology in subsequent conferences with the Bureau of Internal Revenue. It should be particularly noted, however, that the Treasury Department's regulations state that no

definitions of the elements of cost are of invariable application. Therefore, the door is not closed to any equitable basis of cost accounting that may differ from the Treasury formula.

The Treasury has ruled that it is not necessary to modify a system of accounts in use so long as the records clearly reflect the *actual* profit. In many cases it may be possible to meet report requirements without changing the records now kept, by keeping supplementary schedules on work sheets, reconciled to the books of account and kept available as part of the permanent accounting records.

Up to now Treasury Department examinations of Vinson Act reports have usually been made by the same revenue agents who examined the corporate tax returns and usually at the same time. It is to be expected that the Treasury will assign specialists to this work. The cost accounts are likely to be scrutinized more closely in the future than they have been in the past. Contractors are justified in claiming all doubtful points to which they feel justly entitled, where the regulations are vague, and presenting their arguments to the review authorities.

Of course it would be desirable, if practicable, to segregate the shop operations on Government work in separate buildings or departments and to accumulate actual costs for this work alone. This probably will not be feasible in the majority of cases.

Basis for Applying Indirect Factory Expenses

You will note on Exhibit A, that it states after Indirect Factory Expenses, parenthesis "Basis of distribution, ordinarily direct labor." If the company has developed a better method of distribution it should be used. The company may spread material handling charges over material costs, may assign fixed costs according to floor space or by shop centers, or may charge maintenance and repair costs according to departments served. The direct labor basis for maintenance costs may be entirely inequitable; in fact, the basis of distribution should, more often than not, be some other basis than direct labor. If a concern has a well-developed cost distribution, based on provable facts and experience, it should be able to sell its methods to the Treasury Department. The published opinions indicate that a considerable variety of methods may be approved, if they appear reasonable in view of all the facts in each particular case.

The distribution of indirect factory expenses brings up immediately the effect of additional Governmental work upon the estimates

previously made of normal capacity. Facilities previously considered excess facilities may now be useful, requiring revisions of the estimate of capacity. If so-called normal capacity has been determined to be below full productive capacity less normal interruptions, by an allowance for inability to sell the full volume of commercial product, it is doubtful that that allowance should be continued on the actual cost basis contemplated by the Government regulations. A contractor continuing to use standard burden rates must be prepared to allocate his over- or under-absorbed burden back to contracts on some reasonable basis so that he can prove to the Treasury Department by analysis that it represents a conversion back to actual cost.

You will also note in Exhibit A that the expenses of distribution, servicing and administration are ordinarily to be distributed to contracts based on total manufacturing costs plus miscellaneous direct expenses. An alternative basis of selling prices is mentioned for bidding and general selling expenses and general servicing expenses. Remember that the Vinson Act report computations receive the benefit of hindsight as the costs are assembled after completion, and apparently in this instance it is expected that the contractor will select whichever method of distribution is most favorable.

Other Elements of Cost

Immediately after Government work has been awarded, an analysis should be made of the cost accounting procedures of the contractor and of the elements of cost to be charged to the Government work. There may well be many items of estimating and drawing costs, executive or engineering time and travel, costs incurred for special equipment or for necessary plant rearrangements or moving of equipment that should be charged direct to the Government work. Of course, such items must also be eliminated from the general burden which will be distributed in part to government contracts.

With respect to the "Bidding and General Selling Expenses," shown in Exhibit A under the general heading of "Expenses of Distribution, Servicing and Administration," the regulations provide an option of either charging certain items direct to the contracts or distributing a portion of all such costs. A study should be made to decide which treatment is most favorable.

It will also be necessary to keep track of the unallowed items of cost listed in Exhibit A-1. If generally recognized cost accounting practice requires any expenses whatever to be allocated to these con-

tracts, they should be claimed and argued out with the Treasury. After completion of the work and before any Vinson Act report is made, all charges for Vinson contracts should of course be checked, in particular the direct material should be double-checked against the material specification lists; it will be much more economical to do so than to file a subsequent claim for refund based upon errors in the report.

Distributions of indirect expenses are to be based upon the expenses incurred during the period of the contract. This means the exact number of months. In one instance, however, in which the contractor used annual rates, the revenue agent lumped expenses for two years and direct labor for two years and obtained an overall two-year rate although the period of the contract was 16 months. The contractor protested, the conferee requested analyses for the exact months included in the period of the contract, and the matter was finally settled on the basis of separate rates based on each of the two calendar years applied to the months falling within each calendar year. The amounts of the rates were, however, determined arbitrarily by compromise across the table. The general situation appears to be that the revenue agents and conferees can be convinced that the overhead distribution rates should be based on operations for a full year. The particular year may not be a normal year, but I have seen no instance of approval of a contractor's estimate of a normal year.

The items of advertising and branch sales office expense cause some trouble. It is not clear that national advertising by radio, magazine, billboard, etc., has a direct benefit for military contracts; on the other hand it can be argued that such advertising builds the reputation of the contractor which is given consideration by the Navy Department when bids are opened. In one instance the allowed advertising was restricted to that incurred for Army or Navy football programs and air service magazines. These are points that must be worked out and on which all are feeling their way along. There has been a trend toward liberalization of the rulings ever since the first regulations were issued and contractors should not miss opportunities to file claims for refund or to hold the cases open long enough to obtain the advantage on doubtful points.

It is possible to obtain as allowable costs, development costs incurred two or three years previous if the contractor has good records

to prove that the contract received the benefit. Spoiled work or defective parts are allowed if incurred directly on the contract.

I suggest that the last-in, first-out method of costing materials will be advantageous if Government orders under the Vinson Act are performed during a period of rising prices.

Computation of Excess Profit on Vinson Act Reports

In the preparation of the annual reports under the Vinson Act, the profits on contracts completed within the taxable period are to be combined in three groups: (1) Naval vessels (2) Navy airplanes and (3) Army airplanes. There has been some question as to whether Navy and Army airplane contracts could not be grouped together since both classes carry a 12 per cent profit provision and are entitled to carry-over of deficiencies in profit as well as losses for a four year period. In I.T. 3377, issued in May, the Treasury has ruled that such contracts cannot be combined, because of the legalistic concept that the definitions of the word "contract" mean in the first instance contracts approved by the Secretary of the Navy and in the second instance contracts approved by the Secretary of War and that therefore they must be differentiated.

Another interesting point in the computation of total liability in the return is the method of computation of the credit for income and excess-profit taxes. T.D. 4906 and 4909 give several examples of the computations for tax credit. The principle applied appears to be that the tax credit is based upon the lowest brackets first. Credit for *excess-profits* tax paid in the 12 per cent bracket will rarely be given if this type of computation controls.

It should be noted that while the law gives discretionary power to the Departments to state what shall be included in cost (so that the Departments' decisions will hardly be overruled by the Courts unless clear proof is made of abuse of discretion), the law states clearly as to the tax credits to be allowed against excess-profit liability that the credit is, "for taxes paid or remaining to be paid upon the amount of such excess profit." This is not a matter for discretionary or arbitrary computation by the Commissioner of Internal Revenue. Contractors should contend for the method established by precedent in the computation of similar credits on Returns of Unjust Enrichment; that is, by computing the taxpayer's liability twice, on income with and without the income in question and determining the credit as equal to the difference.

Doing Business with Governments

One of the first problems of the accountant is to inform himself (and the officers of his company) as to certain characteristics of doing business with Governments.

On foreign orders, the Neutrality Act affects credits, deliveries and limitations upon our usual rights as citizens to deal freely with others.

Under this Act there must be no element in the transaction of extending credit to a belligerent Government or to a person acting on its behalf. Sales of implements of war require a license from the State Department and all shipments to belligerent ports require the filing of a transfer of title oath. The practice on all foreign shipments has become very largely to require cash in advance or prior to ocean shipment.

Purchasing of materials and supplies for the United States is centralized in the Procurement Division of the Treasury Department except that the War and Navy Departments have their own Procurement Divisions. The newly formed Advisory Council is expected to assign priorities for many of the contracts made by the Army and the Navy. Priorities for foreign orders are still under the Treasury Department and a special committee is studying the question of re-organizing all military purchasing.

Bids for U.S. Government work are filed on standard Government forms. The bid will form a part of the final contract and it is extremely important that it be checked and reviewed most carefully before it is filed and that all original estimate sheets be preserved.

The order will be on one of the standard Government contract forms including clauses governing hours per week to be worked, rates of pay, qualities of material to be used, inspection by Government officials, time limits and penalties for delay, delivery requirements and other details.

Completed work will be billed on the contractors' invoices and public vouchers will be prepared by the Supply Officer designated in the contract. It is customary to quote terms for cash discounts and the Government usually pays promptly and earns its discounts if the record is in proper order. The Government interprets the number of days quoted in discount terms to mean after receipt of an invoice which includes the usual required certificate by the contractor, at the office responsible for making the payment.

There are certain peculiarities about contracting with the United States Government not encountered when dealing with private customers:

1. Persons contracting with the Government must take notice of the extent of authority conferred by law upon a person acting in an official capacity; certain powers may not be held by officers less than heads of departments and ignorance will not protect the contractor.
2. A contractor is not able to withdraw after his bid has been opened; the Government may have someone else perform and collect from the original bidder the difference between what they pay the substitute and the original bid.
3. The National Labor Relations Act and the Wages and Hours Act apply only to contracts between private concerns,—not to Government contracts. Other special laws, e.g., the Federal Eight-Hour Law of 1912; the Buy-American Act of 1933; the Kick-Back Act of 1934; the Bacon-Davis Act of 1935, and the Walsh-Healey Act of 1936 will apply.
4. Federal money cannot be disbursed unless, first, it comes specifically within the terms of an appropriation by the Congress and, second, it is supported by documentation that will not only satisfy the first disbursing officer but will stand the test of review by one or several bureaucratic agencies of review.
5. Above all, it is necessary to *build a record* as the work progresses; all modifications of the contract and all claims for additional monetary or time allowances must be in writing; verbal agreements made on the job, or memoranda buried in the contractor's file will not even come to the knowledge of the reviewers in the General Accounting office, under the Comptroller-General, when the final settlements are made and data subsequently filed in protest may be ruled out because of lack of timely notice to the persons of proper authority.

Effect upon Cost of a Sudden Increase in Volume

One general accounting problem that comes to mind, in connection with war orders, whether foreign or domestic and whether coming under the Vinson Act or not, is the effect upon cost of a sudden marked increase in volume. A cost accountant should be able to advise his principals what the approximate effect of a sudden increase

will be, or, to express it another way, to determine how much margin the estimator has to figure on as a result of the absorption of fixed charges over a greater volume of production. The cost accountant who has developed a flexible budget will have ample opportunity to prove its worth. The crux of the question is, "How do unit costs vary in relation to volume?" The answer is relatively simple, from a theoretical viewpoint, and I want to suggest that the answer can be approximated if the following four facts are known:

1. The maximum balanced production possible on one shift operation.
2. The total amount of the variable costs for any one known percentage of maximum production.
3. The total amount of the fixed costs for any one known percentage of maximum production.
4. The total amount of the additional fixed costs incurred by operating the entire plant more than one shift.

A cost accountant should have in mind a clear picture of the way in which unit and total costs vary, for his company if it has only one plant, and for each fixed plant setup if his company operates several plants. Exhibits B, C and D at the end of this paper may help to clarify the picture. These charts may be considered to be only a mathematical recreation; however, they are intended to illustrate a possible short-cut to a flexible budget for given fixed situations of plant investment and it is hoped that some reader may find in the charts an idea of practical value to him.

Exhibit B

Exhibit B is a demonstration of the fact that on a price-volume chart, with the horizontal and vertical dimensions drawn to an arithmetical scale, the unit fixed costs vary according to volume in a smooth curve of the form of a hyperbola. Any convenient measure of volume can, of course, be used. The path of the point E representing the corner of all possible rectangles having the constant area equal to \$1,000,000 follows the curve GBEH. This is a very useful fact because if we know just one point on the curve, it is possible to construct the entire curve. If, for example, we know that unit fixed cost is 50 cents per hour at volume of 2,000,000 productive hours, we can readily plot the curve from the formula; unit fixed cost at any volume = \$1,000,000 divided by the volume.

Exhibit C

Exhibit C is a graphic representation of a flexible budget for three-shift operation; the total costs per unit follow the path of the point E along the heavy line in three curved sections MEPVIWZ. This is based, of course, upon a fixed plant investment.

Assume that the maximum balanced capacity on one-shift operation is 2,000,000 hours of productive labor and that the variable and fixed total dollar costs are known at 60 per cent of one-shift capacity, that is under operating conditions at 1,200,000 hours of productive labor.

We determine the variable and fixed costs carried through every item in the income account, based on one-shift operation, assuming here, to simplify the chart, that federal income tax varies in proportion to volume. I would include among the items of fixed cost, for this purpose, the payroll for the required skeleton shop organization (that is, the key men and the watchmen, cleaners, certain repairmen, etc., who will be employed if we operate at all), fire insurance, property taxes, allowances for depreciation, certain engineers, and production planning men, executive salaries, a portion of office salaries, professional services, a portion of office expenses, dues, subscriptions and donations, insurance on lives of officers, franchise and capital stock tax. Semi-variable expenses are broken into their equivalent fixed and variable components. Step variations may be treated as variable at the average rate of increase with little error in the composite whole for the present purpose.

We measure off distances on the vertical line starting at point C proportionate to the variable and fixed unit costs, and all the factors necessary to determine the changes for one-shift operation have been plotted. We then construct the curve MEP by reference to the axes AJ and AF, using the method illustrated by Exhibit B.

Next we estimate the additional fixed costs in total dollars to be incurred on two- and three-shift operation and convert these amounts into unit costs. The items which will be repeated are principally those related to the payroll for key men throughout the organization. These additional costs per unit are then measured off on the vertical line starting at point C determining points E' and E". The curves VI and WZ are constructed as extensions of the hyperbola curves passing through the points E' and E".

They are constructed with reference to the same axes as the curve

MEP for the reason that all fixed costs are applicable to all production. The second and third shifts merely produce additional elements of fixed costs which are added to the total for one-shift operation and the path of the critical point E over the second and third shifts follows hyperbola curves slightly further removed from the intersection of the axes, point A.

Exhibit D

In Exhibit D, the line representing total costs per unit determined in Exhibit C (Line MEPVIWZ) is taken as a starting point. We assume that we have commercial orders that give us 60 per cent of capacity on one-shift operation and that we are considering taking on Navy contracts subject to the Vinson Act that will give us a volume of 4,000,000 productive hours, that is, complete two-shift operation. If the contracts are estimated at the same sale prices per unit of production as present commercial orders, total sales will be represented by the area of the large rectangle OFNK; total costs by area OHIK; total profit by area HFNI. If the additional production on Vinson Navy contracts is subject to a 10 per cent limitation, the excess profit to be returned to the Government may be represented by the shaded area RSTI. Besides obtaining the additional profit measured by the area SGNT we have also benefited by increased profit measured by area DHRE representing fixed costs otherwise applicable to commercial orders which we have spread over the additional volume BJ.

Accelerated Depreciation

Another problem arising from war orders, both foreign orders and United States Government contracts under the Vinson Act, is whether, when we extend the use of our plant facilities over two-shift or three-shift operation, we should accelerate our usual rates of depreciation. This is aside from the question of special amortization of plant facilities. It is interesting to note that T.D. 4906, in mentioning allowances for depreciation as an element of cost to be included in indirect factory expenses under Factory Cost for Vinson Act contracts, states:

In making allowances for depreciation, consideration shall be given to the number and length of shifts.

Accelerated allowances for depreciation also appear to have the approval of the Treasury under the ordinary regulations governing

depreciation deductions, for it states in Section 19.23(1) 5 of Regulations 103 :

The capital sum to be recovered shall be charged off over the useful life of the property, either in equal annual instalments or in accordance with any other recognized trade practice, such as an apportionment of the capital sum over *units of production*.

It is my opinion that allowances for depreciation should be accelerated under these operating conditions. If this policy is adopted the allowances may be increased by steps coming in for the second and third shifts, or they may be computed as variable expenses increasing in proportion to the units of production.

If it is estimated that in a 5 per cent depreciation rate, 3 per cent represents the wear and tear element and 2 per cent the obsolescence element, our acceleration factors should probably be applied only on the 3 per cent element for increased wear and tear. Special amortization of plant facilities would take the place of the obsolescence element.

New Investments in Plant Facilities

Every effort should be made to utilize available plant and machine capacity by two- and three-shift operation before new plant facilities are provided. The present demand for speed insures that this will be done.

What problems are involved if the additional plant facilities are to be owned by the contractors? If it is necessary for a concern to raise additional capital by the sale of new issues of bonds or stocks to the public, the demoralized market for new capital issues immediately presents an obstacle; it is probable that expansion with private capital will be made principally by corporations already having the capital available. Some concerns have already taken this step.

Late in June the Treasury announced that it had worked out a formula for its first R.F.C. loan for plant extensions. England and France have entered into a number of agreements for loaning capital for plant extensions.

Whether the additional plant facilities are financed by present corporate resources, by sales of bonds or stock to the public or by loans from the R.F.C. or foreign government, *so long as the contractor is to own the assets*, he is faced with two accounting questions, first, how to handle the investment for corporate accounting purposes and second, how to determine its status for tax purposes.

The answer to the first question is that profits must not be reported to stockholders as available for dividends if they are represented by plant facilities that are not usable and not salable. Therefore, adequate amortization must be recorded in the accounts for general corporate purposes whether amortization is allowed as a tax deduction or not. The amortization may be recorded in the form of valuation reserves subtracted from the fixed asset accounts or as a general reserve pending ultimate realization of fixed assets after the emergency has passed. These allowances should be deducted in the annual income accounts, probably as extraordinary items applicable to the current period.

The taxable status of the new investment is at present quite unsettled. The Ways and Means Committee of the House instructed its experts and those of the Treasury to draft a bill to limit profits and define amortization policy for the defense industries and to report back to the Committee in January 1941, probably with retroactive effect for 1940. This is in connection with the proposed new Revenue Act and is not restricted to the Vinson contracts. Since Congress has decided to extend its session, efforts have been started to obtain this report by October 1st. It is the present attitude of the Treasury, according to published reports, that the present regulations are sufficient to take care of the situation. Of course it is the theory of T.D. 4422 that the remaining useful life of fixed assets is to be redetermined at the end of each taxable period based on the outlook at that time and also it is possible to obtain allowances for obsolescence under present regulations if the case can be proved.

The Administration has suggested the possibility that plant facilities may be constructed or acquired with Government funds and arrangements entered into with private concerns to operate the facilities.

The British-French Purchasing Commission appears to have made such arrangements, one of which is the formation of the Tennessee Powder Company to erect a \$15,000,000 plant for smokeless powder, which is to be operated by duPont. England and France are reported to have paid outright bonuses for the construction of plant facilities. A further tax complication exists for bonuses received on foreign war orders in that the bonuses possibly represent additional taxable income. The Treasury has not yet indicated any amortization policy applicable to foreign war order profits other than the usual allowances for depreciation and obsolescence as per the regulations.

The contractors carry the heavy burden of proof of showing the loss of utility after completion of the contracts. If the bonuses for plant extensions are taxable and if the contractors wish to insure themselves against possible Federal and State income and excess profits taxes by requiring that the bonuses be increased by the amount of such taxes, it appears that the bonuses would, under some circumstances, need to be more than 50 per cent greater than the cost of the additional facilities.

Estimating for Government and War Orders

In closing, I would like to emphasize that as long as contractors quote fixed prices for Government and war orders, the preparation of the original estimates, whether the contracts are obtained by competitive bidding or by negotiation, is, perhaps, the most important problem. In the event of conflict in the interpretation of contracts and bids the statements in the bids will control. Bids and estimates must be very carefully prepared and checked and double-checked. Moreover, liberal allowances must be included in all estimates on Government work for costs that may be in excess of the costs of commercial work of similar type.

Among such additional costs that should be considered are (1) more rigorous supervision and inspection than has been the custom on commercial orders, (2) finer tolerances on machining possibly resulting in higher percentages of spoiled and rejected pieces, (3) material losses resulting from more severe metallurgical tests, particularly on airplane parts, (4) overtime pay due to shortage of skilled labor, (5) the cost of training skilled labor, (6) bonuses paid to expedite movements of materials, (7) additional traveling by executives, engineers and workmen, and (8) guarantee provisions and extra work after delivery. Government work may thus bring about additional costs which must be considered in detail and with regard to the actual operating conditions in the contractor's plant. The actual costs will be determined after the events have all transpired and with the benefit of hindsight. In other words, when your Company starts on either United States Government contracts or foreign war orders, you're "in the service now."

CHAIRMAN HOWELL: Gentlemen, I think Mr. Russell's very splendid and comprehensive paper shows you that you cannot enter into

SESSION I

these contracts thinking that your old formulas of cost and overhead computation are going to serve. As you know, Mr. Reuwer is going to handle the discussion on this subject at three-thirty.

The morning session is adjourned.

. . . The meeting adjourned at eleven-forty o'clock . . .

EXHIBIT A**VINSON ACT****Outline of Elements of Cost based on T.D. 4906**

The regulation states that there are no definitions of the elements of cost which are of invariable application, but that in general the elements of cost may be defined for the purposes of the Act as follows:

I. MANUFACTURING COST**A. Factory Cost**

1. Direct materials (Component part of the finished product)
2. Direct productive labor (Chargeable directly to the article other than item 3)
3. Direct engineering labor
4. Miscellaneous direct factory charges
 - a. Royalties (Chargeable direct to contract)
5. Indirect factory expenses (Basis of distribution, ordinarily, direct labor)
 - a. Labor (Supervision and inspection, timekeeping, tool crib, etc.)
 - b. Material and supplies (Lubricants, shop-fuel, etc.)
 - c. Service expenses (Power, heat & light)
 - d. Fixed charges and obsolescence (Insurance, taxes, rent, depreciation, and obsolescence of special facilities, acquired primarily for the contract)
 - e. Miscellaneous indirect factory expenses (Social security taxes, welfare, compensation insurance, accidents, etc.)
- B. Other manufacturing cost (General royalties, amortization of patents, deferred or unliquidated experimental and development charges, etc.)

II. MISCELLANEOUS DIRECT EXPENSES

- A. Cost of installation and construction (Prior to completion and after delivery)

- B. Sundry direct expenses (Performance bond premiums, freight on shipment, demonstration and test expense, crash insurance, traveling)

III. GENERAL EXPENSES

- A. Indirect engineering expenses (Basis of distribution, ordinarily, direct engineering labor)

1. Labor (Including consulting engineers)
2. Material (Drafting supplies)
3. Miscellaneous (Outside blue-printing, etc.)

- B. Expenses of distribution, servicing and administration (Basis of distribution, total manufacturing cost plus miscellaneous direct expenses during the period of the contract; except as below)

1. Compensation for personal services of employees (Corporate officers, clerical, cleaning, etc.)
2. Bidding and general selling expenses in lieu of direct charges (Alternative basis of distribution, selling prices, except that consideration shall be given to different classes of articles produced, if necessary)
3. General servicing expenses (Ordinary adjustments of minor defects other than guarantee expense) (Alternative basis of distribution, selling prices, except that consideration shall be given to different classes of articles produced, if necessary)
4. Other expenses (Miscellaneous office expense, postage, supplies, repair and depreciation of office furniture, contributions to local charity or community organizations to the extent constituting ordinary and necessary business expenses; welfare, social security, pensions)

- IV. Guarantee expenses—(May be estimated but will be adjusted by additional assessment or refund to actual; when incurred, includes all elements of cost).

EXHIBIT A-1

**ELEMENTS OF COST NOT ALLOWED UNDER VINSON
ACT CONTRACTS**

1. Interest on invested capital.
2. Certain selling expenses, including compensation of employees engaged in selling, operation and maintenance of sales offices, commissions, advertising and demonstrations, depreciation of sales equipment and gratis service which do not constitute proper charges either as direct costs or a reasonable allocation (that is, no part of the cost of marketing commercial articles will be allowed).
3. Entertainment expenses.
4. Dues and memberships other than in regular trade associations.
5. Donations other than as described in Exhibit A.
6. Losses on other contracts.
7. Profits or losses from sales or exchanges of capital assets.
8. Strike or lockout expenses.
9. Fines and penalties.
10. Amortization of unrealized appreciation of assets.
11. Maintenance and depreciation of excess facilities (including idle land and building, idle parts of a building and excess machinery and equipment) vacated or abandoned or not adaptable for future use in performing contracts or subcontracts.
12. Increases in reserve accounts for contingencies, repairs, compensation insurance and guarantees (except certain self-insurance).
13. Federal and State income and excess profits taxes and surtaxes.
14. Cash discount earned up to one per cent of the amount of the purchases, need not be credited against the contracts, except that all discounts on subcontracts subject to the Act will be considered.
15. Interest incurred will not be allowed as cost and interest earned will not be required to be credited.
16. Bond discount or finance charges.
17. Premiums on life insurance on lives of officers.
18. Legal or accounting fees for reorganizations, security issues, capital stock issues and the prosecution of claims against the United States (including income tax matters).
19. Taxes and expenses on issues and transfers of capital stock.
20. Losses on investments.
21. Bad debts.
22. Expenses of collection and exchange.

Exhibit B

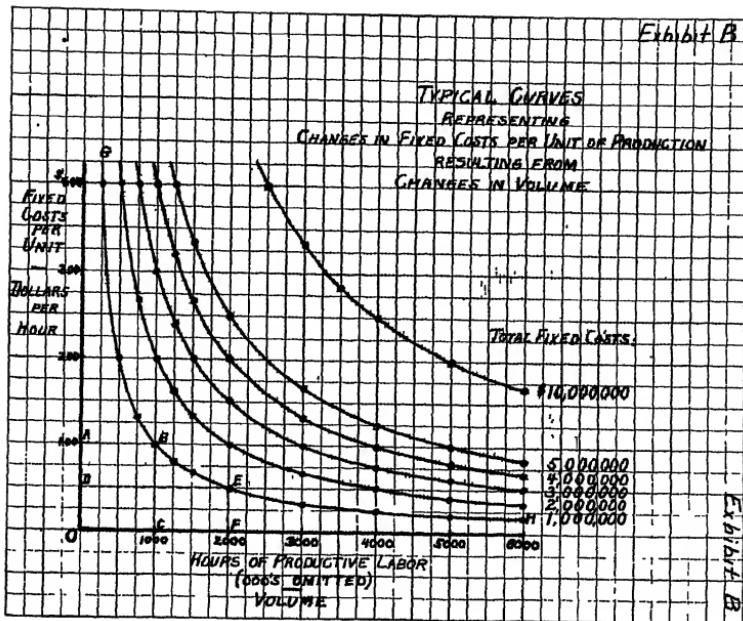


Exhibit B

EXPLANATION OF EXHIBIT B

This chart demonstrates graphically the manner in which fixed costs per unit decrease when volume increases.

The variation is not a straight line, when plotted on an arithmetical scale; that is, the fixed costs per unit do not decrease in either direct or inverse proportion to increases in volume, they decrease according to a smooth curve of the form of the hyperbola (represented by an equation of the general form $xy = c$, where x and y represent distances measured along the horizontal and vertical axes and c represents any fixed number).

It is a characteristic of this curve that the areas of rectangles drawn from any point on one such curve are equal, e.g., area OABC is equal to area ODEF and is equal to the area of any such rectangle drawn from any point on the curve GBEH.

On this chart (also Exhibits C and D) the areas of rectangles represent dollars, because the areas (equal to base times altitude) represent $\text{Hours} \times \frac{\text{Dollars}}{\text{Hours}} = \text{Dollars}$;

Any convenient measure of volume may be used and this will apply, because $\text{Volume} \times \frac{\text{Dollars}}{\text{Volume}} = \text{Dollars}$

As the total amount of fixed costs is increased, the effect upon the fixed costs per unit is to cause them to follow a curve of the same type but further removed from the axes.

As fixed costs become relatively high, the curves tend to straighten within the range of the given volume

Exhibit C**Flexible Cost Budget**

**CHANGES IN TOTAL COSTS PER UNIT OF PRODUCTION
RESULTING FROM
CHANGES IN VOLUME**

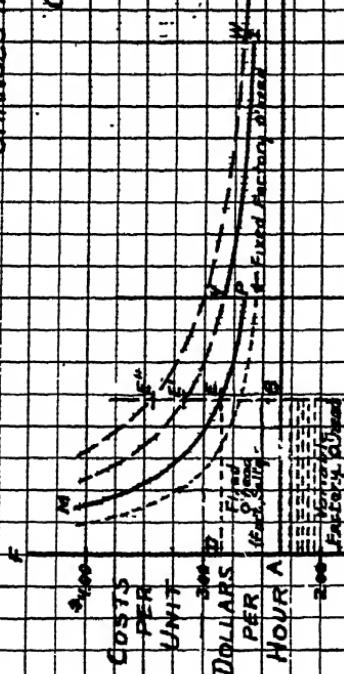


Exhibit C
Total costs per unit ($\text{Total Costs}/\text{Volume}$)

Lines A, B and AT - bases for plotting fixed cost curves
Management determined production capacity for 1-shift assumed to be 20000 hours
Budgeted (actual) variable and fixed costs of production at 10000 hours converted to 1000 hours

Exhibit C

| Volume | Hours of Productive Labor (000's) | Total Costs |
|--------|-----------------------------------|-------------|
| 1000 | 2000 | 4000 |
| 2000 | 4000 | 8000 |
| 3000 | 6000 | 12000 |

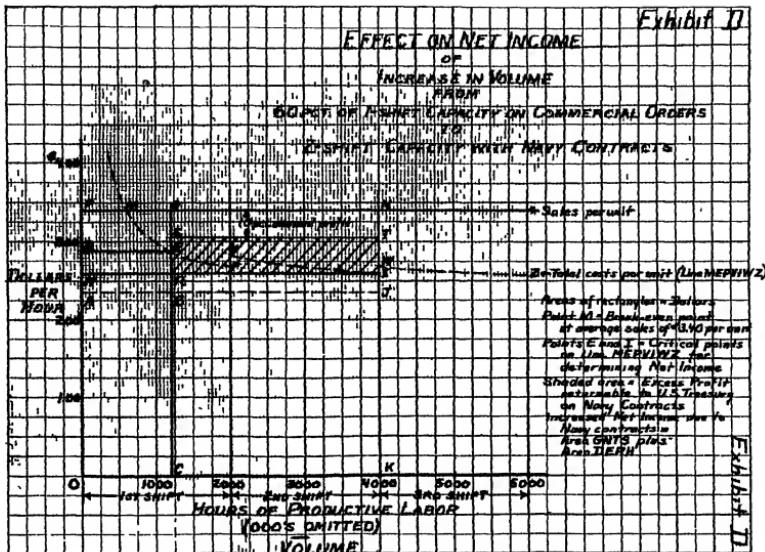
EXPLANATION OF EXHIBIT C

On any price-volume chart, variable costs per unit are represented by horizontal lines, as the total dollars of variable cost are, by definition, considered to increase in direct proportion to volume; the cost per unit of production is therefore the same at all operating volumes. The total dollars of variable cost may increase rapidly or slowly as volume increases, but this affects only the vertical dimension through which the horizontal lines are drawn. Semi-variable expenses are broken into equivalent variable and fixed components.

Actually, of course, variable costs increase by steps and not in a smooth unbroken sequence; however, as total variable cost represents a composite of many elements, the steps should tend to average out and for the purposes of considerable analytic work the step variations may be treated as variable at the average rate of increase with little error. If the steps were to be represented on this chart, the line AJ would become saw-toothed with resultant saw-tooth effect upon the line MEPVIWZ representing total costs per unit.

Points E' and E" represent additional costs incurred by 2-shift and 3-shift operation, respectively.

The hyperbola curves representing changes in fixed costs per unit are constructed upon the line AJ, representing total variable costs per unit, as the horizontal axis. The sections of the related curves falling within the production limits for 2-shift and 3-shift operation determine the resulting total costs per unit in the respective ranges of volume.



EXPLANATION OF EXHIBIT D

The line representing total costs per unit, line MEPVIWZ, as determined in Exhibit C, is redrawn on the same scale.

Sales per unit for Navy contracts is assumed to be the same as for commercial orders. The horizontal sales line FG is therefore extended to point N. Then the area of the large rectangle OFNK represents the total dollar amount of sales, both commercial and Navy. Total costs and expenses will be area OHIK and dollar net income, area HFNI.

The dollar amount of commercial order sales is represented by area OFGC, total dollar costs without added volume due to Navy contracts are represented by area ODEC and related net income by area DFGE.

The total amount of excess profit to be returned to the Government on the Navy contracts is the shaded area RSTI.

A portion of the total fixed costs assignable to commercial orders ADEB, is shared with Navy contracts, if they are obtained, with the result that net income representing operations on commercial orders alone, DFGE is increased to area HFGR due to the presence in the plant of the Navy work

SESSION II

GROUP DISCUSSIONS

TUESDAY AFTERNOON, JUNE 25, 1940

HARRY E. HOWELL, *Chairman*

**PROBLEMS UNDER THE LAST-IN, FIRST-OUT
INVENTORY METHOD**

**SAFEGUARDING THE INVENTORY
INVENTORY PROBLEMS OF SMALL COMPANIES
FINISHED GOODS INVENTORY PROBLEMS
GOVERNMENT AND WAR ORDERS**

MILTON A. FELDMANN has been associated with Peat, Marwick, Mitchell & Co. since 1922 and is at present Manager of their Milwaukee office. He is a Past President of the Wisconsin Society of Certified Public Accountants and a member of the Wisconsin Board of Accountancy. During the past year, Mr. Feldmann has served as President of the Milwaukee Chapter of N.A.C.A.

JOHN C. NAYLOR is Vice President and Controller of the Pet Milk Co. of St. Louis and a member of their Board of Directors. Before joining his present company in 1921, he spent several years in public accounting with Price, Waterhouse & Co., and for five years taught cost accounting in the Extension Division of Washington University. Mr. Naylor has been active in the Legislative and Tax Committees of the St. Louis Chamber of Commerce and is the author of numerous papers on accounting and financial subjects.

JAMES P. COMPTON is Auditor of the American Asphalt Roof Corporation of Kansas City, Mo., with which company he has been associated since 1920. Mr. Compton is a Past President of the Kansas City Chapter and served as a member of the National Board in 1937-38. He is at present a member of the Spot Club.

NELSON L. McCULLY is Controller of the Bauer and Black Division of The Kendall Company. He has been with this company and its predecessor, the Lewis Manufacturing Company, since 1916. He has been a member of the Association since 1920, has served the Chicago Chapter in various capacities including that of President in 1933-34, and since 1938 has been a member of the National Board. During the past year Mr. McCully served as National Director in charge of Constitution, and is at present National Director in charge of Member Attendance.

F. EARL REUWER is Secretary and Treasurer of the American Bosch Corporation of Springfield, Massachusetts. Prior to joining his present company, he served for several years as Controller of the Emerson Drug Company of Baltimore. Mr. Reuwer is a Past President of the Baltimore Chapter and has been a member of the National Board since 1934. He served as Chairman of the Convention Technical Program Committee for the Cincinnati Convention and, with the able assistance of Mrs. Reuwer, provided for Ladies' Entertainment at both the Hot Springs and Atlantic City Conventions.

PROBLEMS UNDER THE LAST-IN, FIRST-OUT INVENTORY METHOD

Chairman: MILTON A. FELDMANN

Resident Manager, Peat, Marwick, Mitchell & Co.,
Milwaukee, Wis.

CHAIRMAN FELDMANN: As Harry Howell mentioned this morning, this is to be a very informal discussion group. It will deal with your problems. The questions are to come from the floor, and the problems are to come from among you, and also the answers, if they are available. My only function here is to be a sort of conductor, to see that we don't run beyond the time required, and that we cover the field as well as we can.

I might say that when Harry Howell asked me to lead this discussion group, I explained to him that I didn't pretend to be an expert on the last-in, first-out basis of inventory valuation, and he replied in a letter which indicated that I didn't need to know anything about it. Under those circumstances, I told him that I qualified admirably to lead the discussion.

Before we take up actual problems, I think we might review some of the basic principles of the last-in, first-out method. If Maurice Peloubet were here, I think he could make that analysis very completely, because I believe he qualifies as an expert on the subject; at least in my judgment he does. Since he is not here, we will have to carry on with what he has said in the past.

It is probably safe to say that the basic principle of the last-in, first-out method is to apply current costs to current sales; that is fundamentally, I think, for the purpose of eliminating, so far as possible, writeups and writedowns of normal inventories, and the inclusion of such writeups or writedowns in the operating results.

The last-in, first-out method of inventory valuation is applicable principally to industries processing basic commodities, where the length of processing results in slow inventory turnover. To use Mr. Peloubet's language in one of his articles, the basic premise is about as follows: to "ensure that as much of the original investment in identical or similar goods as was on hand at the beginning of the period and is on hand at the end of the period is valued on the basis in effect at the beginning of the period, and that goods acquired dur-

ing the period are valued at the prices at which they were acquired. An inventory which meets these tests, regardless of the details of its application, should be considered as a method permitted under section 219."

In applying the method, the general trade practices should prevail. Among the typical applications suggested are brass mills, tanneries, cotton mills, woolen mills, smelters, oil refineries, and similar basic industries. Among the non-applications—this is said qualifiedly because there may be certain parts of the inventory where it is applicable—are those industries where goods lack uniformity from year to year because there are differences in cost elements or physical characteristics; where the inventories are a small part of the total assets; where the inventories consist largely in the nature of perishable goods; where business can engage in hedging operations to protect inventory price fluctuations; or where changes in the price of basic raw material elements do not readily affect selling prices.

That is a very general statement, but I thought it would be well to cover it first so that we can begin with some fundamental principles.

The conclusion, then, is that if last-in, first-out is used in industries in which it is directly applicable, the problems under its use are simplified, whereas if its use is attempted in industries to which it is not applicable, the problems of application increase in number and complexity.

This is to be your discussion, after all. I am not delivering an oration by any means. Probably the problem relating to the last-in, first-out method can be segregated as between the question of the industries to which it applies and further questions in the various industries.

If you gentlemen will put the questions, I will try to find someone to give you the answer from the floor.

ARE VALUES NECESSARY ON PERPETUAL INVENTORY RECORDS?

EDWARD P. GILLANE (*Works Accountant, Underwood Elliott Fisher Co., Bridgeport, Conn.*) : I would like to ask Mr. Bennett a question relative to this morning's talk. I may have misunderstood you, Mr. Bennett, but I understood you to say that when you are taking perpetual inventories, you adjust the quantities and do not make any entry covering the value, as this will take care of itself. In a prior part of your talk you stated that an auditor had run into an adjustment of \$50,000.

The point running through my mind is that if you took perpetual inventories and did not take care of the adjustment of values immediately, as well as the adjustment of quantities, the auditors would still be running into either appreciation or depreciation on any particular audit, and may still have an adjustment of \$50,000.

CLINTON W. BENNETT (*Partner, Cooley & Marvin, Boston, Mass.*): The point I was making is that, in my opinion, it is usually not necessary to have the detail perpetual inventory records—the stock cards or sheets—show both quantities and values. Under my conception of the perpetual inventory, the detail records will reflect quantities only and these will, in turn, be controlled by perpetual inventory controlling accounts. Then when the physical inventory is taken, the quantities so obtained will be proved against the detail perpetual records. These correct quantities will next be priced and the resulting inventory proved with the controlling accounts.

The particular illustration that I gave was one which resulted from the absence of quantities which, of course, resulted in an absence of value. But I reiterate the statement I made this morning, that, in my opinion, in the great majority of manufacturing companies, either large or small, it is usually essential to keep the detail perpetual inventory records in quantities only. Does this answer your question?

MR. GILLANE: Yes.

CHAIRMAN FELDMANN: Is there anybody who has a specific question to ask about the last-in, first-out method?

CHANGING BASIS AFTER ADOPTION

EUGENE R. NEVINS (*Works Accountant, Manning, Maxwell & Moore, Inc., Bridgeport, Conn.*): Suppose you adopt the last-in, first-out basis, and then you suddenly find that your market price drops. Of course, under these circumstances it might be advantageous to reverse the procedure and use your higher priced material rather than your lower priced material. I believe the government will not permit you to do that. That is, once you adopt last-in, first-out, you must be uniform and you must continue to use that method for all accounting periods after the adoption, unless the government releases you.

CHAIRMAN FELDMANN: Does anybody want to answer that? If not, I will be glad to make some comments on it. What you have said is true of the law. You can't change your basis, once you have adopted it, until you receive permission from the government to change.

ARNO R. KASSANDER (*Staff, Lybrand, Ross Bros. & Montgomery, New York, N. Y.*): I think you can add that consistency is necessary under any method, and consistency is not always most advantageous under given circumstances.

CHAIRMAN FELDMANN: That certainly is true and basic in income tax matters.

APPLICATION WITH RESPECT TO TIME PERIODS

J. S. SEIDMAN (*Partner, Seidman & Seidman, New York, N. Y.*): My question is intended primarily to challenge the soundness of the last-in, first-out method as an appropriate method of valuing inventory. The question is this: Suppose you start with an inventory of ten units of an item. The next transaction is a sale of three of those units. Then the subsequent and only remaining transaction for the year is a purchase of three units. The purchase is made at a price different from the price of the opening inventory. Now, at what price is the sale of those three units to be costed, the price of the opening inventory, or the price of the *subsequent* purchase?

CHAIRMAN FELDMANN: I think the answer to that is obviously the price of the subsequent purchase. If those were the facts, it is probable that last-in, first-out wouldn't be applicable to that industry. Don't you think that is true?

MR. SEIDMAN: No, I don't think that is true, because in the normal workings of industry certainly the contrary is true. Immediately after inventory taking, there are generally sales without antecedent or concurrent purchases. This applies in all industries including those in which last-in, first-out would apply.

CHAIRMAN FELDMANN: I think that has been true.

DAVID HIMMELBLAU (*Head, Accounting Department, Northwestern University, Chicago, Ill.*): Do you intend to take the purchase

price of goods bought after the original goods were used, or are you taking the most recent purchase at the date the goods were used?

To take Mr. Seidman's case, you have three items taken out of stock, and you later buy three items. I don't see what bearing the price of the three items bought later has on the pricing of goods that you used before the purchase.

CHAIRMAN FELDMANN: You are asking the same question Mr. Seidman proposed, without giving an answer.

PROFESSOR HIMMELBLAU: I raise the point that under no application of the last-in, first-out method I have heard of or seen in operation, can you take the purchase price of goods bought after the use of the goods. You take the purchase price of the goods that you buy to replace the particular stock or the last purchase. You wouldn't take the price of goods bought in December to price out, say, a transaction of the previous February.

CHAIRMAN FELDMANN: If you have ten units on hand at the beginning of the year at a certain unit price, and you have ten units remaining at the end of the year, the answer under the law in ordinary conditions is that you will inventory the ten units—regardless of the fact that they are different units, since they are similar or identical goods—at the same price at which they were valued in the opening inventory. That is the answer under the regulations and the law as I understand it.

PROFESSOR HIMMELBLAU: I question it.

CHAIRMAN FELDMANN: Is there any other discussion on that point before we leave it? You are asking a vital question. If there is a misunderstanding on that point, we would like to settle it, if possible.

MR. KASSANDER: I think the question has to do with a consideration of the period during which the goods last in shall be deemed first out. I think that is important. If you are running a perpetual inventory system and costing from perpetual inventory, you are certainly going to do exactly what Professor Himmelblau said; you are going to charge into your cost the most recently acquired goods that are in the inventory at the time of the transaction, and you are going

to follow up with some later purchases. At the end of the year, it so happens that the law puts this whole thing on an annual basis. You may have some adjustments due to the fact that the reacquisition of the goods hasn't been coincidental with their use, and I think that is probably a basic problem in connection with the method—that inventory adjustments may be necessary if you have the type of transaction discussed to an important degree.

I think you brought out the point that if you do have that to a significant degree, you may not have an industry in which the method is applicable.

CHAIRMAN FELDMANN: That is—stating the basic problem in another way—your current costing is done presumably on a day-to-day basis, on a weekly basis, on a monthly basis, or perhaps on a quarterly basis. If you are using the last-in, first-out method for current costing, you are going to get monthly or periodic results which, summed up, are not going to be identical with your annual operating results, because at the end of the year you are going to ignore all the current costings and go to the law and regulations which permit you to use the cost of the last goods acquired, so that your current periodic operating results and your final annual operating results may be materially different.

I think that is one of the basic problems we have to discuss this afternoon. The whole thing revolves around that point, I think you all will agree, and I would like very much to have more comments on it.

GEORGE REA (*Supervisor, Touche, Niven & Co., New York, N. Y.*): I have heard one of the most ardent advocates of the last-in, first-out method use exactly the same illustration Mr. Seidman has given as an argument for the use of that method.

However, the point I want to make is somewhat in the nature of a point of order. Any proposition, no matter how good, can be destroyed by the use of ridiculous conditions. We are here this afternoon, I believe, to study the problems that come to us in the use of the last-in, first-out method. I would suggest that we leave for later discussion, or at some other time and place, the problem of whether or not it is official and practicable, according to best accounting methods or principles, and confine ourselves now to the problems that have arisen in the handling of the last-in, first-out method.

CHAIRMAN FELDMANN: We would like to do that, of course. By the way, would you mind propounding a few of the problems, since that is really the point at issue?

MR. REA: I am sorry to say I can't help you, because I don't personally handle any clients who use the last-in, first-out method. They have considered it, but it is not applicable to their operating conditions, so I can't add anything to the information gathered here this afternoon.

APPLICATION TO WOOLEN INDUSTRY

CHAIRMAN FELDMANN: Are there any members here who represent basic industries of the nature I mentioned before? I am particularly interested in having them present problems we can discuss. We must start with the premise that we are dealing with industries to which it is particularly applicable, and continue from there. I would like very much to have someone from the tanning industry, the woolen industry, the cotton industry or the textile industry present a question.

JOHN P. POWELL (*Cost Department Head, Marshall Field & Co., Manufacturing Division, Spray, N. C.*): Is there anyone here connected with a woolen mill? The reason I ask is that woolen mills were mentioned in your list of industries to which the method is applicable. We have cotton, rayon, silk, hosiery and woolen mills, and we don't find the last-in, first-out method applicable to our woolen mills.

CHAIRMAN FELDMANN: I didn't intend to say it was applicable in all instances; I intended to convey that it might be applicable to woolen mills. There may be situations where it is, or again where it is not.

PROFESSOR HIMMELBLAU: I would be interested in knowing why it isn't applicable to the woolen mills. Why can't you use it?

MR. POWELL: Here is the problem in a woolen mill: You have one grade of wool or you have twenty different grades of wool. They will run all the way from shoddies at thirty cents a pound to what

we call an AA wool at one dollar a pound. At the beginning of the year, your mill may be running on AA wool, and at the end of the year it may be on shoddy. That is an extreme case. You will be running on wool continuously, but you won't be running on the same type.

With cotton you have a different situation. There, your basic commodity remains the same, but in wool your basic commodities vary with the grades of wool.

CHAIRMAN FELDMANN: How many are there?

MR. POWELL: We have hundreds of them. Each individual vendor has his own variety of a specific grade of wool.

CHAIRMAN FELDMANN: I think that comes back to the original premise, that you must have on hand at the beginning and end of any period, or at all times in your inventory, identical or reasonably similar goods. If you don't fall in this classification, it is probable that you shouldn't adopt last-in, first-out, because you will find the problem is too complex.

MR. POWELL: The reason I am interested is because in some of our mills this method is the thing we are looking for. In other mills we can't apply it, and we don't want to apply it to one mill without applying it to the whole group.

CHAIRMAN FELDMANN: Might it not be desirable, nevertheless, to develop it in the mills where it is applicable?

MR. POWELL: That is a decision we will make later.

CHAIRMAN FELDMANN: Is there anyone here representing the steel industry or one using steel as a large element of raw material in its product, who would care to bring up a question?

MR. REA: Before we get on to that question, may I suggest to the gentleman who just spoke that he consider the base stock method rather than the last-in, first-out as the possible solution for his problems?

CHAIRMAN FELDMANN: I am afraid he would have pretty much the same problems under that. Don't you think so?

MR. POWELL: Yes, I think so.

APPLICATION TO THE LEATHER INDUSTRY

PAUL N. KNAUFF (*Assistant Auditor, The Ohio Leather Co., Girard, Ohio*): We, like many other tanners, have made an extensive study. Perhaps some haven't made this study, but it is very desirable that an extensive study be made before the adoption of the last-in, first-out method.

There is one thing we have found, and I believe this is generally true at present, that the current market is just a little bit too high for its adoption. In other words, the market level should be very low before deciding to adopt the last-in, first-out method of inventory valuation. I think all other conditions in the tanning industry are ideal, if you can find the proper place at which to start.

CHAIRMAN FELDMANN: Isn't it true that at the beginning of 1939 the market on skins was generally above cost?

MR. KNAUFF: Yes, I would say so.

CHAIRMAN FELDMANN: Wouldn't it have been practicable to begin the last-in, first-out method as of January 1, 1939?

MR. KNAUFF: It probably would have been at that time.

CHAIRMAN FELDMANN: Some tanners did adopt the last-in, first-out basis as of January 1, 1939, because they believed the cost of the skins then on hand was fairly indicative of a long-term, basic price, and since market was above it they felt they were justified in beginning the last-in, first-out method as of that date. Whether they were, in fact, remains to be seen.

MR. KNAUFF: I believe, in a way, that is true. However, it is to be noted that some of these concerns did not include their whole inventory. Some of them adopted it as to raw material and work in process; others adopted it all the way through their inventory. Com-

plete investigation will prove that a different picture in relation to taxes and profits will be presented by taking raw material, work in process or finished goods, or all of them together. The results will vary, depending upon the branch of the inventory to which the last-in, first-out method is applied. There are many things that will show up if a thorough study is made before its adoption. However, as I have said, I believe the tanning industry is, perhaps, in itself, ideal, if the right starting point can be found.

CHAIRMAN FELDMANN: Thank you. Is there anyone else who would like to carry on?

POSSIBILITY OF CHANGE IN TAX LAW

MR. KNAUFF: There is one question I did want to hear discussed, and that is whether there is a probability, after starting the use of the new method, that within a period of three or four years the government will come around and say, "You can't use this any longer; you have got to go back to some method you had before, or some other method"? After we have set up all of our accounting on the basis of last-in, first-out, and made all our reports on the basis of last-in, first-out, still they may tell us at any time within three or four years that it can't be used any more. Is that true and, if so, what is the bone of contention there?

CHAIRMAN FELDMANN: It would be very unfortunate if that were true. Does anybody care to discuss that?

CHARLES H. TOWNS (*Partner, Loomis, Suffern & Fernald, New York, N. Y.*): It seems to me that, in general, the question he is asking us to discuss is one that can only be answered by the Supreme Court. There is a great deal of doubt as to whether companies had the right to use the last-in, first-out method even before Congress passed the present revenue act. As far as I know, the question was never passed on by the Supreme Court.

If I understood the exact wording of the question, it was whether the government could cancel this right. I think almost certainly Congress could pass a revenue act which would say specifically that the last-in, first-out method could not be used for inventory, and that would settle that particular feature of the question.

CHAIRMAN FELDMANN: I think that is certainly true. Personally, I don't believe it is likely that a revenue bill would be enacted which would change the basis, if it is consistent. That is again a personal opinion, because consistency of inventory treatment, even before the enactment of last-in, first-out, has always been considered fundamental in the valuation of inventory.

As for the other question, it is my understanding that, while the last-in, first-out method was never taken up by the Supreme Court, the question of normal base stock, a similar method, was passed on in the Kansas City Structural Steel Company case. So when we talk about the last-in, first-out method, we must be very careful to confine our remarks to last-in, first-out, rather than normal base stock. That is anathema to the government because of the Kansas City Structural Steel Company's case. While last-in, first-out has some of the attributes of normal base stock, it isn't by any means exactly the normal base stock method of valuation.

APPLICATION TO WORK IN PROCESS

MR. KASSANDER: I would like to propose a problem with respect to which I personally have come to a fairly firm conclusion, and I would like to check with the people here. That problem deals with work in process. As we have heard, within certain discretionary powers of the Commissioner, we can pick the particular class of inventory to which we are going to apply the last-in, first-out method.

I want to talk about work in process, where the raw material cost component cannot be particularly identified without some reference to specifications and bills of material. I am speaking of, let's say, an electric generator, where the amount of copper in that generator cannot be determined at inventory time without analyzing specifications, and you have to price this inventory on the basis of accumulated job cost, standard cost, or something of that sort.

I have about come to the conclusion that with such work in process, the last-in, first-out method of inventory valuation is rarely applicable, because you cannot, through the mechanics of the operation of a cost system, relieve work in process on a last-in, first-out basis to get the charges into finished stock, and still have the finished stock on a last-in, first-out basis. I don't know whether I make myself clear, but in the mechanics of operation of the system, you charge work in process with raw materials on a last-in, first-out basis. The latest

acquisition is going into work in process. Eventually, you want that same raw material to get into finished goods, but in the ordinary mechanics of operating the cost system on a last-in, first-out basis, that raw material will never get into finished goods for the reason that by the time the job is finished some other raw material will be "last-in" the work-in-process account. Personally, I have come to the conclusion that the use of the last-in, first-out method with respect to work in process where the work in process is valued from an ordinary operating cost system, is not practicable. I would like to check on that with some other people who have actually tried it out.

CHAIRMAN FELDMANN: Can we have some further expressions of opinion on that point?

ROBERT R. RENNER (*Staff, Treasurer's Department, Spencer Kellogg & Sons, Inc., Buffalo, N. Y.*): Just a few thoughts on that aspect. Apply the last-in, first-out method to raw materials (on the premise that the industry is typically suited to the method); then you will find that if the work in process and the finished goods are costed on the average cost basis, it is automatically taken care of.

I shall have to amplify that: Probably one of the basic causes back of this sponsorship of the last-in, first-out method comes from the result of severe rises and declines in raw material prices in some industries. These severe changes in price are not experienced in the cost of labor and the cost of burden. I think, too, that ordinarily the industries having conditions suited to the method are those which are forced to maintain the bulk of their inventories in the form of raw materials. When we remember that the essential purpose of the last-in, first-out method is to minimize extreme losses or profits due to price swing in its effect on raw material inventory—in other words, to stabilize inventory value—it is readily admissible that the method should be applied to raw materials rather than work in process and finished goods. In a practical sense both the latter under the last-in, first-out plan should be valued on the average cost basis and only the raw materials on the last-in basis.

Notwithstanding this thought, it seems to me that there should be no insurmountable difficulties in applying the method to work in process and to finished goods, if so desired; it should be just as practicable with these as with raw material. If we can apply the first-in, first-out method, which we have been able to do in all these past years,

why can't we apply the last-in, first-out method just as easily? The last-in, first-out method is nothing more than the first-in, first-out in reverse.

CHAIRMAN FELDMANN: It seems to me this discussion just proves the basic premise that the last-in, first-out method is applicable only in those industries where the inventories are reasonably normal in quantity, where the period of production is long extended, and where the items of an inventory are identical or reasonably similar as between the beginning and the end of the year, so that they can be reasonably identified. If you don't have that situation, it is probably true that the last-in, first-out method does not apply.

Perhaps it is also true that the last-in, first-out method is basically applicable to those industries where the sales price of the article follows the market value of the basic raw material element in the goods under the so-called replacement theory of costing.

I haven't thought it necessary to go into the theory and reasoning behind the last-in, first-out method. I thought we would try to confine this discussion to the problems under the method. Those are the things we would like to be concerned with here this afternoon—the problems under last-in, first-out.

SUBSTITUTING ONE BASIC COMMODITY FOR ANOTHER

MR. POWELL: Would anyone like to give an opinion as to whether the government would let you write down one basic commodity to where the average price would be relative to another basic commodity, when you were changing basic commodities in a plant?

I can give an illustration of that by taking a hosiery mill. Had we established last-in, first-out five years ago, and established the valuation of silk at \$2 a pound, and at the present time changed the plant over to Nylon, the two market prices would be approximately at the same level now. But if you should change to last-in, first-out now, the new price on Nylon would be twice as much as the first-in price of silk, and you would lose the benefit of your inventory price at a low level.

CHAIRMAN FELDMANN: I think that is a very important question. I would like to have some comment on it. I don't know what the answer is, of course, but generally speaking there is a serious question

in my mind as to whether you can change from silk to Nylon and continue on the basis of the old silk in any respect.

MR. POWELL: The question is, would the government allow you to write the Nylon from \$4 a pound down to your base price of \$2?

CHAIRMAN FELDMANN: How do you establish the base price on Nylon?

MR. POWELL: Two dollars per pound was the base price on silk.

CHAIRMAN FELDMANN: I don't suppose anybody knows the answer to that, because that is a material change in an entire industry. It is a revolutionary change in the industry, and I don't know what the answer to that might be.

MR. POWELL: As far as commodities are concerned, it is the same commodity; it is going into the same finished product.

CHAIRMAN FELDMANN: I believe—I say this advisedly—the American Institute of Accountants' committee worked on this problem, and it was headed by Maurice Peloubet, or at least he was active in it. Peloubet's idea, as I recall it, is that the government would be very reasonable in its application of the last-in, first-out method. If the industry is such that the basis is applicable, it is quite probable that the government would do its best to interpret it in a manner favorable to the industry. I don't know whether that is any help or not.

PORTION OF INVENTORY COVERED

HARRY L. BELANGER (*Assistant Treasurer, Escanaba Paper Co., Escanaba, Mich.*): If a concern decided to use the last-in, first-out method on raw materials, could they designate any particular materials, or would they have to take all materials as a group?

CHAIRMAN FELDMANN: Under the regulations, you can pick out the particular raw materials to which you feel it is applicable and submit that list in your application with your return. If the government doesn't disagree, the last-in, first-out method will be applicable to those materials, but subject to review by the Treasury Department.

MR. KASSANDER: I have in mind that certain concerns might pick out those favorable to them, and leave out those which are unfavorable.

CHAIRMAN FELDMANN: That is subject to the Commissioner's discretion. If he believes you are whipsawing the government, you may be sure he will take a hand in it.

USE OF AVERAGES

FRANK W. KEMPER (*Cost Accountant, Century Electric Co., St. Louis, Mo.*): I would like to propound a question that comes pretty close to the remarks of Mr. Kassander a while ago. We happen to be engaged in the manufacture of electric motors, an intricate product which involves the use of various materials. I am wondering whether anybody has had any experience, or has any opinion, in applying the last-in, first-out method on an average of all the materials consumed and in using the average costs for figuring the value of the finished product in the current sales for the period; in other words, using a standard cost, determining the average as a percentage of the standard, and applying the percentage against the over-all finished goods as being last-in.

MR. TOWNS: I don't know of any case where that is being done, where the product is as complicated as it would be in the case of a motor or generator. I do know that in one or more cases in the brass industry, the proposal is to use average percentages with reference to some items.

If you have five million pounds of finished brass of a certain class at the end of a period and your percentage is 70 per cent copper and 30 per cent zinc on the average, the intention is to make an over-all computation. This should be checked at inventory time and revised if found necessary.

CHAIRMAN FELDMANN: It seems quite practical in that case.

MR. TOWNS: There is no knowing whether the Treasury Department will accept that or not, as far as I know.

CHAIRMAN FELDMANN: It seems to be a trade practice in the industry, and from that viewpoint it seems reasonable that the govern-

ment might consider it. To carry it over into finished motors is certainly problematical at best.

HEDGING

MR. RENNER: I came in just in time to hear you say that the last-in, first-out method is not applicable to those industries in which hedging is available. Will you elaborate on that, please? I refer particularly to the flour milling industry and our own industry, the crushing of soy beans and flaxseed. We engage in hedging.

CHAIRMAN FELDMANN: I don't know a great deal about the flour industry, but it seems to me that, generally speaking, the principle behind it is this: In the flour industry you can hedge your long sales by purchases of futures, or your long position in inventories by sales of futures, and since you are able to safeguard your profit margin to some extent in doing that, it wouldn't be necessary to adopt the last-in, first-out method. That is generally the theory behind it. Perhaps someone else can elaborate on that.

MR. RENNER: That is true, but I think that, while theoretically you should hedge simultaneously in equal quantity in the same market, in actual practice it isn't always done. Theoretically, if you sell 100 barrels of flour today and do not buy the wheat until tomorrow, you will in the meantime hedge in tomorrow's wheat. I wonder whether or not the profits or losses from hedging operations could be thrown into the current year's profits under the last-in, first-out method.

CHAIRMAN FELDMANN: I realize that you are right in that you don't hedge in exactly the same quantities or at exactly the same time, but I don't know whether, in view of that, it might still be desirable to adopt the last-in, first-out method. It might, under certain circumstances.

I know that in the malting industry, which you might say is similar, hedging is almost impossible. At first blush, you would think you could hedge on barley as well as you could on wheat, but it is practically never done in the industry. Therefore, last-in, first-out might be applicable to the malting industry because hedging is impossible.

BASIC ADVANTAGE OF LAST-IN, FIRST-OUT METHOD

MR. GILLANE: A number of industries are using the first-in, first-out method; other companies are using cost or market, whichever is lower; still other companies average the cost in order to properly liquidate the actual values. In contrast to these methods, why is the last-in, first-out method advocated? What are its real advantages? If you are going to take a loss in a declining market, why should you go into last-in, first-out?

CHAIRMAN FELDMANN: Would someone care to answer that question who knows whether it has advantages in a particular industry?

MR. TOWNS: As I understand it, and I think this has been mentioned today, the reasons for adopting the last-in, first-out method are basically to apply current costs against current sales, and the hope and expectation is that it will tend to reduce the depth of the valleys and the height of the peaks in the business profits that are shown.

CHAIRMAN FELDMANN: Does that answer your question?

PROFESSOR HIMMELBLAU: I think you are dodging it now. If Mr. Towns' answer is correct, and I think it is, then I think you started on the wrong premise to begin with. You are going to apply the last-in, first-out method on an annual basis rather than on a monthly basis, and when you apply it on the annual basis you destroy the advantages you claim. You will not have any matching of current costs with current sales; not on an annual basis, I can assure you that.

CHAIRMAN FELDMANN: The point is well taken.

MR. KNAUFF: I believe the last-in, first-out method is applicable for the accounting reason of getting replacement profits shown on our books, and that is the only basis for it. To take a simple example, let us say we are selling an item at forty cents. On the old cost-or-market basis, it is in our inventory at thirty-four cents. On the face of it we have made a six-cent profit, and we will report a six-cent profit.

Immediately we know we are on a rising market, and we know the minute we have sold those goods we have to replace them because business can't live unless we do replace them. To replace a product we have sold for forty cents, we will say we have to pay thirty-six cents. It was in our inventory at thirty-four cents. We sold it for forty cents, indicating a six-cent profit, but when we go out to replace it we have lost two cents of our profit.

There is your whole theory, in my estimation. You are reporting a profit that is not a profit until you have sold the item that has been placed in your inventory to replace the item that was previously sold. You haven't reaped that profit until you resell your replacement. I think that is the strongest argument in favor of it.

CHAIRMAN FELDMANN: Mr. Himmelblau, does that answer your question generally?

PROFESSOR HIMMELBLAU: Mr. Knauff has answered it completely, if he means that he will put his accounting through on a transaction basis; in other words, that he will forthwith take today's sale and cost that sale today at his thirty-six cent price. If he is going to wait a whole year before he does that, he has not accomplished his purpose.

MR. KNAUFF: My answer was based upon immediate prices, carried through on a monthly basis, in order to be sure that at all times we are covering sales on a replacement basis and are making sales on a replacement basis. If we don't keep above the market, we are losing the effect of the last-in, first-out because, on a last-in, first-out basis, we will have a loss unless we sell in advance of the market.

CHAIRMAN FELDMANN: In other words, you are going to follow the replacement theory strictly and completely. That is your answer to that.

MR. KNAUFF: Absolutely.

CHAIRMAN FELDMANN: I think that is the answer to Mr. Himmelblau's question, but I believe I know what is in the back of his mind, too.

LAST-IN, FIRST-OUT COST VERSUS COST OR MARKET

MR. KASSANDER: There is just one pet peeve I would like to deliver myself of. It might seem a little trivial, but I think sometimes it clarifies the course of thinking on this subject.

The last two or three speakers—you run into it continually—seem to have made a distinction between what they call cost or market and last-in, first-out, and I want to protest that last-in, first-out is just as good a cost as any other cost, if it is applicable. There is no distinction between cost or market and last-in, first-out. It is a case of last-in, first-out cost or market, or some other cost or market.

I think this morning Mr. Bennett brought out the point very clearly that we are dealing with a body of costs, and we are deciding which costs we are going to charge against our current operations and which costs we are going to retain in our balance sheet to be charged at some subsequent time. Last-in, first-out, or first-in, first-out, or average, or some other method, is based on an analysis of the facts in our particular industry as to which cost should be charged against current operations in order to most clearly reflect income. It is just a case of picking out the costs that you are going to put into current operations and, by deduction and arithmetic, retaining those costs that you are going to defer.

BASIC INVENTORY SIMILAR TO FIXED ASSETS

CHAIRMAN FELDMANN: The protagonists of the last-in, first-out draw a simple example of why they support this method, and I can best set it out by citing an example of a businessman who intends to go into a processing industry. He realizes he has to invest about \$500,000 in plant and equipment, and about \$500,000 in inventories—we will say about 500,000 units of inventory. He realizes when he enters into this business he can never recapture the 500,000 units of inventory. They are as frozen in his business as his plant and equipment. He recaptures his plant and equipment over a long period through depreciation charges, but he never recaptures his inventory cost except upon liquidation.

To continue, this man invests one million dollars, \$500,000 of it in inventories. The only way he can make money is by operating a going business. He can't make money by liquidating. His theory is, if

he is a proponent of last-in, first-out, that if the market does go up above the cost of his land and buildings, he has made no money; if the market goes down below the cost of the construction of his land and buildings, he has lost no money, because he doesn't intend to sell in any event. Similarly, his half million dollars of inventory is never going to be sold because he needs 500,000 units in process all the time. If the market value of the inventory goes up above his original purchase price, it means nothing to him because he can't dispose of it in any case, except upon liquidation. He is not in business to liquidate.

Similarly, if the market value of his 500,000 units of inventory goes down, he has lost no money, because he can never sell it. The minute he sells a unit, he replaces the unit.

Since we have been indulging in the theory or principle involved here, I thought it might be desirable to bring out this story to illustrate the principle behind last-in, first-out, at least in a general way.

DOES METHOD ASSUME MOST RECENT PURCHASES USED FIRST?

MR. SEIDMAN: Not as an antagonist of last-in, first-out, but merely in order that both sides of the theory may gain expression at this meeting, may I voice the viewpoint of first-in, first-out, or any other method but last-in, first-out?

In the first place, basically what is involved in last-in, first-out, or first-in, first-out, is a matter of identification. The problem is: Are you drawing off from the top of the pile, or from the bottom of the pile—or from no pile, as the earlier questions indicated. I think if it were feasible to identify, so that we knew without any question at all what it is we were selling—what item, what lot, what cost price—the whole question would become academic. There would be no occasion for last-in, first-out, or first-in, first-out. We would have actual identified costs.

The proponents of last-in, first-out, as enunciated by our chairman and others, go further. They say, wholly apart from the subject of identification, "We will arbitrarily indulge the assumption that we are always drawing off from the top of the pile."

Let us examine the economic and accounting implications of that arbitrary assumption. In the method of figuring inventory, the valuation is always on a cost basis further and further removed from the balance sheet date. Furthermore, we are, in effect, saying that there is no closed transaction until a concern goes out of business. Until

then, the substitution of one "thing" for another is not to be given financial expression.

In other words, in the last-in, first-out method we work on the basis of accounting for things, rather than accounting for dollars. The argument is that, as long as you are left with the same number of units, why change the dollars?

Unfortunately, our economy is based only on dollars. It is the sole common denominator we have. The only way we know of expressing "things" in accounting terms is through dollars, not through things.

I submit to you that an investment in inventory of \$1,000 for ten units is totally different, under the only language that we know of, namely, dollars, from an investment in the same ten units but at \$10,000.

CHAIRMAN FELDMANN: I think your point is very well taken.

I will try to raise some further discussion in the form of a question.

If you were in the paper mill business and you had 50,000 cords of pulp wood on hand at \$10 a cord, and you needed at all times a supply of cord wood in your yard, do you think it would make any difference whether you took it from the bottom of the pile or from the top of the pile? Suppose you began business with 50,000 cords of pulp wood, a year's supply, representing an investment of \$500,000, would you still support that principle?

MR. SEIDMAN: One of the best defenses is an offense, so I will reverse the question. Let us suppose you had this situation in your paper mill: You had a certain quantity of cord wood out in your pile, you used it in operations, and then bought another quantity. You would know you had put into operation this first pile of cord wood. Would you say that operations are to be charged with the cost of the pile not yet consumed or the cost of the pile not yet acquired which will be consumed in the future?

CHAIRMAN FELDMANN: It is not practical to charge the cord wood in the order of its acquisition; it is seldom done.

MR. SEIDMAN: I merely want to bring out the principle that is involved. We, as accountants, are called upon not to dabble in theories but in facts. Could we do anything else but enter into the

cost of operations, the cost of that first pile that we know has gone into operation?

CHAIRMAN FELDMANN: I would like to have some further discussion on that from the floor, please.

MR. REA: Mr. Chairman, isn't your question, as you proposed it, an assumption that is not a fact. Suppose we do have 50,000 cords of pulp wood as our basis for last-in, first-out inventory. We can't keep those 50,000 cords there forever. It is going to rot, so it has to be used up.

CHAIRMAN FELDMANN: It is replaced.

MR. REA: Exactly. It is replaced, so that a year hence you are not valuing the same inventory you had at the beginning of the year.

CHAIRMAN FELDMANN: That is very true.

MR. REA: I can cite the case of the blast furnace industry along the shores of the Great Lakes, where they get the iron from Duluth. They bring it down in enormous quantities during the summer to last through the year, and they do not always buy in succeeding years from the same mines from which they bought the year before. They are very careful to know from which pile they are putting their ore into the blast furnace to be smelted, because it is a chemical proposition and they have to know what they are going to produce.

On the last-in, first-out method your assumption is contrary to the fact. I think you will find in almost every industry to which you apply it, you are assuming something that cannot be supported by the actual facts.

CHAIRMAN FELDMANN: The whole basis of last-in, first-out undoubtedly rests on certain assumptions.

MR. KASSANDER: I would like to comment on the question of assumptions. Both of these gentlemen—and I think the discussion has been very enlightening—in taking the position for the sake of argument for the first-in, first-out method, assume that the proponent of last-in, first-out is always taking from the top of the pile—

that he is using the most recently purchased materials first. In that connection, I submit that the last-in, first-out method is very unfortunately named, because I don't think it makes any such assumption. The name has created that assumption, and the name is simply in contradistinction to first-in, first-out. I don't think we make any such assumption.

There is only one thing we assume, namely, that the only reason we go out and buy more pig iron or cord wood is because we have just sold some pig iron or cord wood, and therefore we apply the replacement cost to the sale.

The classical example is the oil business which must have its pipe lines full and must have its tank cars up to a certain level. There, we don't say we use the last quart of oil first. We say the reason we bought more oil was to keep the pipe line full. We use some oil, and we are charging against our sales what we have had to pay for the replacement.

We don't assume that we always take it from the top of the pile. Everybody knows that isn't so. We spoke of the economic implication, namely, that we are replacing inventory because we made some sales, and the replacement cost is charged against those sales.

IS PROFIT EQUALIZATION PRIME OBJECTIVE?

MR. REA: About a month ago it was my privilege to contribute a little three- or four-paragraph item to the *Bulletin*, in which I challenged the proponents of the last-in, first-out method to admit that their objective was not a method of valuing inventory, but a method of equalizing profits. I received some very interesting replies, to which in due course I hope to respond, either directly to the proponents, or through the *Bulletin*. I am heartily in sympathy with anything that will equalize profits in a legitimate manner. However, why use equalization of profits as a basis for valuing the inventory?

CHAIRMAN FELDMANN: Do you think that it is equalization of profits? Is that the basic theory? Isn't it rather the fact that it is intended to eliminate what, under the replacement theory, have in the past been arbitrary write-ups and misstatement of profits, and arbitrary write-downs and misstatement of profits?

MR. REA: They are based on facts.

CHAIRMAN FELDMANN: I am again voicing the viewpoint of the proponents of last-in, first-out.

MR. KASSANDER: I think you have expressed it very well. We are not trying to equalize profits. We are trying to show income correctly, and we feel that methods which build up large inventory values that find their way into surplus simply through the mechanics of bookkeeping do not serve that purpose. If we do not have a larger inventory valuation at the end of a period than at the beginning, we are going to show the true profits rather than imaginary profits.

As for the other remark, "Why use a scheme to equalize profits as a basis of valuing inventory?": I think Mr. Bennett brought out this morning that the job isn't to value inventory. The job is to determine income in a going manufacturing concern. If a chap sells shoes, jewelry, ladies' hats, and articles of that type, he has to have a liquidating position. He has a type of merchandise that must be valued, but the manufacturing concern doesn't have to value merchandise as an objective. It has to determine income, and the inventory is the balance. It is simply an arithmetical difference.

You can follow the conventional method: Start with an inventory at the beginning, add the production cost, deduct the inventory at the end, and the answer is cost of sales. The other method is to establish cost of sales, deduct that cost from the total incurred cost, and what is left is the inventory account. It is not value; it is deferred charge. It is the part of cost which has not yet been recovered. Of course, it should be supported by existing assets which are not priced in excess of recoverable amounts. That is "market."

MR. GILLANE: For the benefit of those present, I would like to state that Dr. Charles Reitell, in a very lucid article in *Factory Management and Maintenance* for May, 1940, gave a comparison of the first-in, first-out method versus the last-in, first-out method, and it simmered down to the fact that it was a method of equalizing profits.

PROFESSOR HIMMELBLAU: Mr. Chairman, is there anyone who seriously thinks that last-in, first-out is anything else but a method of equalizing profits?

MR. KNAUFF: I don't think it is a means of leveling off profits. I think the purpose of last-in, first-out is to show true profits, profits that can be paid out as dividends without affecting the financial position of the company. If you wind up the year with a profit due largely to an increase in raw material prices and you pay dividends on the basis of that reported profit, you have paid dividends out of profits that have not yet been earned, and they won't be earned until those goods bought to replace those items have been sold. Therefore, you are creating a picture that is a falsity to the investing public in the first place, and while it looks nice in many cases on an advancing market, it looks too bad on a falling market.

CHAIRMAN FELDMANN: Before we go on with this part of the discussion, are there any specific problems on last-in, first-out that any of you gentlemen would like to have taken up, where you propose to adopt it or have adopted it and have specific and practical problems on its administration? If there are, we would like to dispose of them right now.

USE OF RESERVES UNDER LAST-IN, FIRST-OUT METHOD

MR. TOWNS: I would like to bring out one accounting problem which bothers me somewhat. Take a rubber fabricating business, for example. Suppose they start using the last-in, first-out method at a time when the inventory is at 20 cents a pound. Suppose the last-in, first-out method is used for two or three years, and at the end of the period the inventory is worth 15 cents a pound. Should a reserve be set up on the balance sheet, and should the contra charge be made to surplus, to profit and loss, or to cost?

Going on from there, suppose the price comes back again the next year to 20 cents, and the reserve is no longer necessary. To what should that reserve be credited, or how would you get rid of the reserve?

CHAIRMAN FELDMANN: That is a practical problem which we would like to have discussed here.

MR. RENNER: I should like to offer this thought: Since the last-in, first-out method is a method toward stabilizing profits (which, in the final analysis, it really is because, after all, accounting concepts

and economic concepts are so closely interwoven that you have to consider them together rather than independent of one another), there should be an appropriation from surplus as a specific reserve if you want to reflect balance sheet inventory on the lower of cost or market basis. The loss or gain in inventory, measured by the difference in book value and value at market on balance sheet date, should not be included in current year income. It is strictly a surplus item, in my opinion.

CHAIRMAN FELDMANN: Will you continue with the rest of that question, showing what happens when the market again goes up?

MR. RENNER: With the same example, let's assume that the initial inventory, established on the last-in, first-out basis, was 20 cents a pound. At the close of the year market price had decreased to 15 cents a pound, but on your balance sheet and on your books your pricing of inventory is at 20 cents. Obviously, if you want to be conservative, from the balance sheet point of view, you would set up a reserve of 5 cents a pound, but set up this reserve as an appropriation out of surplus rather than out of current year's profits.

CHAIRMAN FELDMANN: I presume, if the price goes up, you would again restore it back to surplus.

MR. RENNER: I would suggest that those who wish to follow the policy, with regard to balance sheet valuation of inventory, of quoting at cost or market whichever is lower, create out of surplus and keep open from year to year a reserve to which charges or credits can be made, to the end that the sum-total of this reserve and the inventory at book value will result in a value (for the balance sheet) equivalent to the lower of cost or market. The offsetting entries to the reserve will be to surplus. Let the inventory value for income determination remain on the last-in basis, and thus the income statement reflects "going concern" profits from year to year. Let the balance sheet inventory value be placed on a lower of cost or market basis through the medium of an open reserve account which changes from one year to another through adjustments to surplus, so that the combination of the reserve and the inventory will be a net value for inventory on the balance sheet at lower of cost or market.

PROFESSOR HIMMELBLAU: I want to suggest that this gentleman has overlooked one step. If he agrees with your analysis that last-in, first-out is justified because inventories are really fixed assets, why not take the inventories out of current assets and put them under fixed assets? Then follow the rule of cost less depreciation, and forget your market prices.

CHAIRMAN FELDMANN: I don't quite follow you.

PROFESSOR HIMMELBLAU: Move it from current assets to fixed assets, and you won't have to worry about the market valuation.

CHAIRMAN FELDMANN: That is a suggestion to which accountants might well give some consideration.

MR. BELANGER: If you set up a reserve to bring your balance sheet into line with your inventory as stated, charging it to surplus, as Mr. Bennett stated this morning, and then attempt to take that back two or three years from now, do you think the Internal Revenue Department would permit it on the income tax statement?

CHAIRMAN FELDMANN: I think the question is entirely apart from income tax.

MR. RENNER: My comments had nothing to do with income tax. As regards income taxes, you would have to adhere strictly to the provisions of the Code, under which there is no allowance for reserves for inventory valuation. I believe Mr. Bennett brought that out this morning.

MR. NEVINS: I do not agree with the proposition that when we replace something we replace it because we sold it. I think that is entirely wrong and is putting the cart before the horse. The only reason we replace it is because we hope to sell it in the future. That is true, because if we know we couldn't sell it again, we positively would not replace it. That seems to follow the line of Professor Himmelblau's idea that it is a current transaction and has nothing to do with the transaction in the future.

CHAIRMAN FELDMANN: That is a point. I won't say that is the answer. I wonder whether your statement would apply fully to an

oil refinery, tannery or other industry where this plan is applicable?

I am afraid the second discussion group is about to come in and take over these quarters. Are there any other questions? If there are not, I want to say, in closing, that I have enjoyed very much leading this discussion, and thank you for coming.

. . . The meeting adjourned at three-thirty o'clock . . .

SAFEGUARDING THE INVENTORY

Chairman: JOHN C. NAYLOR

Vice President and Controller, Pet Milk Company,
St. Louis, Mo.

CHAIRMAN NAYLOR: As you no doubt know from your program, this is the session in which we will discuss the question of safeguarding the inventory.

The Committee has given me a two-page memorandum on the rules governing the conduct of this meeting, but I do not think I need to read it in its entirety. I will give you the summary, however. The most important function of a discussion leader is to outline the scope of the discussion and see that the subject matter is thoroughly covered, without trespassing on the subjects delegated to other sessions.

The question of safeguarding the inventory is a big problem and your remarks and comments may be directed toward any phase of inventory except possibly valuation on the last-in, first-out basis, which is being treated at another session. I believe the inventory problems of small companies are also receiving consideration in another session. Bearing those two subjects in mind, you can direct your remarks toward anything you may think is interesting and appropriate to the question of inventories.

Personally, I would like to see the discussion take a certain turn, although this is purely a suggestion of mine. I suppose all of us have read about and experienced the conventional and traditional methods of handling inventory, that is, the handling of purchases of materials and accounting for them, the storerooms, approval of the invoice, etc., but I think we ought to discuss some of the problems that have been slighted, both in the theoretical discussions and in conventions of this kind. Let's be inventory diagnosticians for the after-

noon, and by that expression I mean this: Instead of taking a cut and dried system we read about in the books, and saying "Yes, we want this," let's ask ourselves the questions, "What does ail this company?" "What does ail the inventory methods?" "How much of this should we use?" "Do we really want a storeroom, or do we not?"

I don't believe there is anyone who does not know how to go about providing a storeroom and setting up the machinery. The question is: Do we really need it? That is the main thing. Shall we go to the expense of having the storeroom and paying salaries, and providing the separate space and facilities which go with it? Just as in medicine, many diseases can be treated very successfully, but the big job is to diagnose the case, and I would like to see this whole question discussed first from that angle. I mentioned the storeroom. The same thing might apply to receiving reports. We read in books, and we all probably theorize about the advantage of getting a receiving report, but how many of us actually do have the man in the shop make a separate and individual list? Or, is it better or safer to depend upon the approval of an invoice, either with or without the quantity shown?

The reason we don't have a formal speech is that we want an exchange of ideas among you. I am sure all of you do not have what we might call perfect inventory systems, that is, starting with the proper approval of the purchase, the proper approval of the receipt of material and payment of the invoice, and handling of the store-room requisition. I can't conceive of that. In fact, I don't think we want it. Let us approach this subject from that angle. Then, we can discuss the part the internal auditor or internal cost man should have in seeing that the inventories are properly accounted for and are not stolen, and in determining how much co-operation he should give the outside auditors in attempting to arrive at an accurate physical count. I would also like to bring up another aspect which is very seldom discussed, but to my mind is the most important of all—the human element. We talk about making records foolproof and safeguarding this and that. Most of these precautionary measures can be no better than the people administering them. We say that about laws, and that is true of any accounting plan or system.

It has always struck me rather curiously that we expect the mechanics of the inventory system to exercise perfect control. In connection with cash and accounts receivable, we have a cashier and

also a high priced officer supervising the disbursements and receipts of the company. We have a credit department checking up on balances and aging the accounts from time to time. But how many of us have supervisors of the inventory? Do we depend solely upon the mechanics? I think we might spend some time profitably in discussing that.

With these few suggestions I throw the meeting open. We don't want to be in agreement; get up and speak your mind. We don't want to draw out the discussion unnecessarily. We want to keep the meeting on a friendly basis, of course, but let's air all the opinions and viewpoints we possibly can in the time allotted to us. The meeting is open. Let us discuss storerooms, first. Is anyone prepared to defend the use of a storeroom? I have gone into places where they said, "Well, that's very fine, but we don't use enough material. What is the use of devoting a lot of space to a storeroom, having a storekeeper and going to the expense of all the requisitions?" What would you answer to that?

WHEN IS A STOREROOM NECESSARY?

GEORGE F. KOHNLE (*Assistant Production Manager, Wagner Electric Corp., St. Louis, Mo.*): I don't happen to be a cost accountant. I am an assistant production manager. We find that storerooms are almost indispensable, and I don't believe we would care to get along without them for several reasons. We have an accurate record of the materials withdrawn at all times, and can establish quantity limits based on the quantities drawn out from time to time. We do that periodically, and also classify our material for the inventory period as standard, slow moving, obsolete, and so on. I maintain that the storeroom is indispensable for a large industrial plant.

CHAIRMAN NAYLOR: Do you record information for all materials or only select ones?

MR. KOHNLE: For all materials, except in our automotive division where the turnover is too rapid. All our other materials, that is, the smaller items, are passed through the storeroom, even in the sub-assemblies. For some of the larger items that wouldn't be feasible.

CHAIRMAN NAYLOR: How do you handle the fast-moving items?

MR. KOHNLE: Where we have fast-moving items, we schedule our material just about fast enough to keep the ball rolling, you might say. As fast as it comes into the receiving department, it is washed on through and out the shipping door again. Of course, that is only possible where you have a definite schedule for certain types of apparatus and a reasonably stable production schedule. But for our miscellaneous items, I would say the storerooms are indispensable.

CHAIRMAN NAYLOR: That is what I am trying to get at, gentlemen. Let's diagnose each case and find out when we will do a certain thing.

ALFRED S. KAYSER (*Public Accountant, San Francisco, Calif.*): The question of storerooms, to my mind, is a question you have to decide in every individual case. You have to consider your own problem. But it seems to me, for the reason stated, you can just as easily get the information regarding turnover, stock and purchase requirements, and so on, from records without keeping a stockroom. For that purpose alone it seems to me a stockroom would be rather expensive, when your purchase records or production records of those materials you produce will just as readily tell you, over a period of time, what your consumption of those materials is.

CHAIRMAN NAYLOR: The same thought occurred to me. You could analyze your material used records and get most of the information you want. Don't you use a storeroom for a more fundamental purpose? To prevent theft and misplacements, and things of that kind?

MR. KOHNLE: Not for theft so much. We may issue orders for the factory divisions to fabricate a certain quantity of items, perhaps a lot of 10,000 pieces of a certain item. If we didn't have some storeroom records as to how many were drawn out, the shop division might come along and say, "We are all out of these. What are we going to do? We are going to shut down if we don't get more." If we have records to show they were withdrawn at one time, we can send out our stock chaser and locate the material. Invariably, it is located somewhere. We usually try to limit withdrawals to an amount that would be consumed in about a week. Sometimes the foremen take it upon themselves to draw out the entire stock of parts

and they are left lying underneath a bench somewhere, unnoticed, and the next reaction is that they are used up. If we can prove that they just recently withdrew six or eight thousand and could not possibly have used them, then we can look for them and find them. Our storeroom is almost indispensable.

CHAIRMAN NAYLOR: Are there any other comments?

ELMER V. LUCE (*Mill Controller, Sidney Blumenthal & Co., Inc., Shelton, Conn.*) : This problem of storerooms, I think, can be divided into two parts: first, a storeroom for raw materials, and second, a storeroom for what we might call "supplies." In the case of raw materials, it is quite possible to arrange for your deliveries from the vendor so that the vendor acts as the storeroom. Then when the raw material is received at the plant it will go direct to the manufacturing department, in which case, naturally, a storeroom would be an unnecessary expense.

Supplies can be classified into two categories: first, supplies you ordinarily stock because they are in steady demand from different departments (supplies of that nature should be stored in a storeroom in charge of a storekeeper); and second, other supplies that are not regularly stocked, but are only ordered from time to time for specific purposes. Those particular supplies need not pass through a storeroom, but can be charged directly to the department requisitioning them.

The main thought I wish to present is the possibility of having the vendor act as your storeroom.

GEORGE P. LANDWEHR (*Superintendent, Philadelphia Electric Co., Philadelphia, Pa.*) : There is an additional advantage in having a storeroom for the protection of stock. We are a public utility company, producing and selling electric energy and gas, and are, therefore, subject to both state and Federal commission regulations. A distinct advantage of having the storeroom is in securing the proper accounting distribution for the stock when issued, since our classification of accounts is very voluminous and, as a result, any one kind of material may be charged to a great many different accounts. This information obtained by the storeroom from the department using the material is forwarded to the accounting department for distribution to the accounts benefited by such transactions.

CHAIRMAN NAYLOR: I think we might bear in mind that we should not confuse the storeroom with the perpetual record. In other words, we might look on the storeroom as a place where someone would have custody of the material, whereas the perpetual record would merely be responsible for the accounting for that material.

EUGENE O. SCHALK (*Cost Accountant, P. R. Mallory & Co., Indianapolis, Ind.*): I agree with the gentleman regarding inventory storerooms to some extent. I especially agree with Mr. Kayser that we should consider our own individual inventory problems. For instance, we manufacture a number of small parts for radio use. We make push button switches, selector switches, volume controls and many other items which consist of a number of small parts. It is obvious that we cannot manufacture the exact required number of parts necessary to build a certain number of completed switches. Therefore we must manufacture parts and hold them in a storeroom. Such parts are subsequently delivered to the assembly floor at the time the assembly floor receives orders to build such switches for specific customers' orders. If we would make parts and send them directly to the assembly floor to be used in the assembling of completed items, we would lose control of our cost because the foreman or the department head might spoil a number of the parts in the process of the assembling without having to make an excess requisition for the parts scrapped. I am reasonably sure that in our line of business we could not operate efficiently without a parts storeroom.

In regard to raw material, we have practically the same problem as mentioned above. Most of our parts are made from steel, brass and bronze. It would be practically impossible to buy the exact quantity of such raw material to produce a desired number of parts, and even if it would be possible, it would not be economical. Such raw materials are usually bought in larger quantities in order to receive the benefit of lower cost. Therefore, it is also necessary for us to carry a raw material storeroom.

In regard to supplies, I definitely believe that it is advisable to have supply items carried in the storeroom. It is true that if such storerooms could be eliminated a great deal of money could be saved, but I believe it is also true that without a control of supply items, the loss would be even greater. I may add that we have a certain system which will reduce the storekeeping expense to some extent. The supplies which are used by a certain department exclusively are charged

directly to this department. The actual item, however, is carried in the storeroom and can only be obtained by means of a requisition signed by the foreman. Such requisitions are not priced, extended and accumulated inasmuch as the value of such items is not carried on the inventory. All other items are carried on the inventory and can only be given out on the basis of requisitions properly authorized.

In conclusion, I may say that it would be suicide for a company such as ours to run its business without storerooms and without proper storeroom control.

CHAIRMAN NAYLOR: There seems to be quite a difference of opinion as to what we do in actual practice. I would like a show of hands as to how many companies have storerooms for some selective commodities. Well, that is almost unanimous. How many do not have any storerooms at all? No one.

How many have storerooms without lock and key and under custody of someone where the men can go and get the material they need from one central place? You will often see a storeroom with a wire or steel door and a lock, but it is open nine-tenths of the time. Your vote would show that in most cases there is a storeroom which is properly locked and supervised.

I believe you mentioned, Mr. Kohnle, that you aren't particularly concerned with theft. You don't keep the storeroom to prevent employees from running away with materials. Is it a question of having adequate control?

MR. KOHNLE: Yes.

JOSEPH P. HEALEY (*Assistant Secretary, Curtiss Wright Corp., Buffalo, N. Y.*): Safeguarding the inventory begins at the receiving platform, and we are considering, very seriously, the possibility of combining our stores, receiving and receiving inspection departments almost within one room, because the production dispatchers are so concerned about maintaining production, that we find that a good many of them intercept materials at the receiving department for immediate use in production—not with any idea of stealing it. The material goes into the manufacture of our products, but unfortunately it throws a tremendous burden on the accounting department in trying to tie in between the actual receipt of material with the vendor's

count; therefore we are considering the possibility of combining these three departments.

I held my hand up when you inquired how many had storerooms which were open. At the present time we are working on three shifts a day, and before the second and third shifts were built up, it was possible for the workmen in the plant to enter the storeroom at almost any time and obtain material because our prime function is to produce, not keep accounting records. However, we have not had too much difficulty with it. For the most part they have been honest. Perhaps they weren't able to use our commodity in their homes.

CHAIRMAN NAYLOR: One comment interested me. You said they more or less intercepted material between the receiving platform and storeroom. Do you think that was due to unnecessary delay and poor planning in getting material to the men? It seems rather odd that they couldn't wait until the material went through the usual channel.

MR. HEALEY: In some cases they take the material as soon as it arrives at the receiving platform. In others, they do wait for it, or sometimes go so far as to remove it from the truck en route to the storeroom. In too many cases it means that it is necessary to duplicate the order, bringing additional material to replace that which later turns up, and there is wastage for the simple reason that our products don't follow the standard trend.

CHAIRMAN NAYLOR: I am glad you started on the question of material receipts. That is our next topic.

To Whom Should the Storeroom Report?

HOWARD E. ISHAM (*Audit Supervisor, Carnegie-Illinois Steel Corp., Pittsburgh, Pa.*): We have considered physical aspects so far in our discussion, but I am interested further from a control standpoint. I would like to ask whether the man or men in charge of the storeroom should report to the accounting department or to the operating department? I would like to hear both sides of that question.

CARL E. HESS (*Auditor, The Kawnneer Co., Niles, Mich.*): We maintain a production planning department under the direction of the factory manager. This department is directly responsible for the ac-

tions of the stockkeeper and his helpers. In other words, the stock-room is directly responsible to the production planning department, which is also the department keeping the perpetual inventory. The planning department requisitions material as needed, through the purchasing department, and keeps track of it. If at any time the stock-room does not have the material which should be on hand as indicated by the perpetual inventory records, the man in charge of the store-room must satisfy the planning department as to the use or disposition of the material in question.

OSCAR J. HELD (*Accountant, Lunkenheimer Co., Cincinnati, Ohio*) : In view of the fact that the function of the manufacturing department is manufacturing, and the duty of the service department is to render service to the manufacturing department, it is my opinion that the stores department, which is a service department, should be controlled by the purchasing department under whose direction the proper stores inventories should be maintained. Furthermore, the purchasing department and not the factory is best qualified to pass upon the quantities to be ordered most economically.

CHAIRMAN NAYLOR : One of the speakers this morning stated that he didn't think the purchasing department was in as good a position as the inventory department to know when and how much to buy. Why should this be true?

MR. HELD : If the stores department is under the direct jurisdiction of the purchasing department, and taking into account that many stores items are commonly used by several manufacturing departments, the purchasing department, it seems, is in the best position to determine when and what to order in the most economic way.

CHAIRMAN NAYLOR : In your case is it one department?

MR. HELD : The stores department is subsidiary to the purchasing department.

CHAIRMAN NAYLOR : Now we have heard from two sides, one the purchasing department, one the inventory control department. Does anyone have it handled by neither, but by a sort of supervisory or central control committee?

CLARENCE J. FALKENRATH (*Chief Cost Accountant, Wagner Electric Corp., St. Louis, Mo.*) : For the purpose of preventing collusion, I think it advisable to have individual control between authorization of purchases, receipt of material, and approval of vouchers for payment. In our organization the receiving department is under the supervision of the traffic manager who, in turn, reports to the controller. The purchasing department ties into the receiving department only to the extent of furnishing the receiving department with the receiving copy of the purchase order, so that the material as received can be identified and checked with the purchase authorization. The receiving department, when the material is received, issues an incoming report and then has material inspected. After the material has passed inspection, the receiving department issues a material receiving report, with copies sent to the accounts payable, purchasing, production and cost departments. The supplier's invoices are sent to the purchasing department for price check only, and then forwarded to the accounts payable department. The accounts payable department matches the original copy of the invoice with the accounts payable copy of the material receiving report which was received direct from the receiving department and vouchers for payment. This is our procedure, provided, of course, that the material has not been rejected by the inspection department.

DETERMINING PURCHASE QUANTITIES

JOSEPH F. STEINHAUFEL (*Cost Accountant, Wagner Electric Corp., St. Louis, Mo.*) : One of the functions of stores control is to have sufficient parts and material on hand to meet and satisfy all production schedules and customers' demands. Changes in demand present quite a problem that might have a proper place in this discussion and can best be illustrated by considering a typical case followed through its various demand stages.

Suppose we start out with an item of rubber goods made for an experimental piece of apparatus. In the engineering development stage our requirements are very low, perhaps 50 pieces. Nothing to worry about—no storeroom problem. But, if the design is accepted and a large order is released, we have to provide for production of parts at the rate of at least 200,000 per year. Other motor car manufacturers place their orders and the production rate is stepped up to possibly 1,000,000 per year.

At this stage a standardization program substitutes the particular part in several other models, thus further expanding production to about 2,000,000 per year. This goes on for several years, when suddenly the model is discontinued and production drops. It is no longer a production item and no orders are available. After a lapse of three or four years the rubber parts in use have worn out and must be replaced. Service requirements are now responsible for a new demand which results in our service station receiving orders for replacements. Coming from twenty-five service stations in various locations, this demand accelerates very rapidly and in due time has passed the 300,000 per year mark and can be expected to again reach at least 1,000,000 per year.

I have endeavored to give you a brief picture of some of our problems in demand changes. Unless you provide some kind of a storeroom to keep control of that demand and anticipate its changes, you might have quite a problem. You must know at all times how much is available in order to meet these sudden changes in demand, and there is hardly any other way to do it except through a storeroom record.

CHAIRMAN NAYLOR: I think you are right. I would like to ask you one question. Since this is a shifting proposition, who determines the quantity that should be ordered?

MR. FALKENRATH: So long as it is in production I would say the operating department. When it is no longer an item used in current production and it is a service item, we consider it a service replacement part and therefore the factory service parts department determines the quantities to be maintained, which is controlled to a certain extent from the service orders which originate from our various service branches.

CHAIRMAN NAYLOR: I am glad you brought that out. I can remember the day when we thought we could simply set a maximum and minimum, and that would go on forever. As you say, some things are in a constant state of flux. A maximum of one time might be a minimum of another.

Is there anyone else who has these requisitions handled by other than production or purchasing departments? Do you have a budget

committee or planning committee that tries to determine how much of these materials are needed?

WALTER C. KUECHENMEISTER (*Accountant, Axelson Mfg. Co., St. Louis, Mo.*): We manufacture oil well pumping equipment. In line with Mr. Steinhafel's thought, our control is in the accounting department. The supplies are requisitioned out by the respective producing departments. However, the control of ordering and the information passed on to the purchasing department is from records maintained in the accounting department.

CHAIRMAN NAYLOR: Who, in the accounting department, determines how much they should buy, for instance?

MR. KUECHENMEISTER: In our particular case it is the office manager.

CHAIRMAN NAYLOR: And he is in a position to know?

MR. KUECHENMEISTER: Yes, from stores cards records which we maintain in the office.

CHAIRMAN NAYLOR: Isn't there a missing link somewhere? As was pointed out in the case of Wagner Electric, there is a shift sometimes due to a popular style or design. How can you tell merely from the records whether the service department two years or two months or six months from now will need anything like that supply?

MR. KUECHENMEISTER: I think when I started out I was thinking purely from the standpoint of supplies and not material which goes into production. It so happens in our particular business, our commodity is made of steel and is a large and bulky item which does not pass through a storeroom. The vendor, in our case, is considered our storeroom.

MR. HEALEY: In our particular case the accounting department has full control over the inventory records, and the production department, through the planning department, handles all of the requisitioning of material. Of course, in our particular case we order for a specific job, and usually, when the stockroom man gives out the last

of the material, he notes on the card "all out," which, of course, is compared by the stores ledger clerks, and if their records show a balance on hand, an investigation is made, thereby giving the accounting department full control at inventory time when the production department takes the inventory. This is spread over a period of approximately three to four months.

CHAIRMAN NAYLOR: Isn't anyone here handicapped by lack of finance or by a budgeting committee? In other words, do these requisitions need no approval from some finance committee or do the executives just go along and buy all the materials you need? Has anyone ever run into that? You are very fortunate if you have no such strings.

MR. SCHALK: Gentlemen, I have listened very carefully to these various discussions and wish to give you my thought in this matter. I do not believe that the ordering of material and purchase parts should be left entirely to the purchasing department. My reason for making this statement is that, ordinarily, the purchasing department has no conception or at least is not familiar with the cost of producing parts. Permit me to give you an example of what I have in mind. We may need five hundred pieces in order to produce a certain completed item. These five hundred pieces might cost us ten cents for labor and three dollars for machine setup. I do not believe that the purchasing department should determine quantities. Such information should come from the planning department. I do believe, however, that the purchasing department should play a great part in determining quantities when material is bought from the outside. They should be familiar with price ranges and should continuously recommend to the planning department quantities which may be purchased at a lowest possible cost.

In regard to the control of inventory and storeroom, I do not consider it advisable to have these functions under the control of the purchasing department. According to my opinion they should fall under the jurisdiction and supervision of the production and planning department. This department should be held responsible for inventory so that the necessary materials are always available and obsolescence is held at a minimum.

I definitely agree with one gentleman who mentioned that a great deal of so-called "crookedness" could occur if the storeroom and in-

ventory are controlled by the purchasing department. The purchasing department could approve invoices for payments although not all the material on such invoices was received or the material which was received was inferior. Obviously, the personnel of such a purchasing department would receive personal benefit from such tactics. However, if the planning department has control over inventory they would not receive in their storerooms inferior material or material which will require additional labor before it can be used, without charging such additional cost back to the vendor. There might be certain circumstances where the storeroom and inventory control could be placed with the purchasing department. However, I hope that I have given you a thought which may prompt you to at least consider this important function in your business and make certain that the inventory is controlled by the best method.

PERPETUAL AND PHYSICAL INVENTORIES

CHAIRMAN NAYLOR: Thank you. I don't want this to develop into a Gallup poll, but I would like to take a vote on two things. First, How many insist upon a separate receiving report being made out by the man receiving the material? Then, how many give him either a blank copy of the invoice with the quantities omitted, or one including the quantities and ask him to prove them? I see, almost unanimously, you are in favor of the receiving report.

I think we might leave the question of receiving materials and storing materials. I don't think we need to spend much time on the counting of materials. That is almost universally done in one way or another.

Let us proceed to the question of taking physical inventories as against perpetual records. Again I would like to take a vote on how many maintain perpetual inventory records on all major items of raw material and finished goods. How many do not? Apparently the majority of companies maintain perpetual inventory records.

How many take physical inventory to check on the accuracy of the perpetual records? Apparently most companies check their perpetual inventory records in this manner.

All of this leads to a discussion of how we go about taking physical inventories, what particular departments are charged with that responsibility, and what co-operation is given outsiders. It is a field

that has been quite up-ended in the past few years, and some amazing results have been shown.

NELSON L. McCULLY (*Controller, Bauer & Black, Chicago, Ill.*): The last vote that was taken was not clear to me. What is the exact question or questions which we are attempting to answer?

CHAIRMAN NAYLOR: The question was: "How many take physical inventory to check their perpetual records?"

MR. McCULLY: It seems to me that the question as put may be answered correctly in the affirmative by people who actually are checking inventories in entirely different ways. The answer to the question as stated is "yes" both for the man who each day checks a few items in his perpetual record with a physical inventory of those items, and for the man who takes a simultaneous physical inventory of all items in his perpetual record.

CHAIRMAN NAYLOR: I had reference to the simultaneous count. Let's put it specifically that way—not the periodical check of isolated items but the simultaneous check of practically all items. How many do that? Apparently a majority.

Let's check now on the period. How many do it more often than once a year, how many do it quarterly, and how many annually? It looks as if it is almost evenly divided between quarterly and annually.

MR. McCULLY: I would like to find out how many men take a simultaneous inventory of all items and also make continuous rotating checks of the individual items in their inventories.

CHAIRMAN NAYLOR: May we have hands on that? About 25 per cent. That is really better than I expected in a group of this kind. Since you do that, who is entrusted with the responsibility? Is it the responsibility of the storeroom, or a special committee, or the production department?

JOHN W. LUDWIG (*Assistant Controller, Monsanto Chemical Co., St. Louis, Mo.*): It seems that management has become more deeply concerned regarding the safeguarding of inventories, due to an incident which occurred a few years ago. Up to the past year we had

been taking a complete physical count of inventories at the end of each year to verify the perpetual inventory records kept in the warehouses and storerooms. Starting the third quarter of last year we have been making quarterly checks in addition to the year-end physical inventory. This was not done on all items, but on the larger stocks which represent about 75 per cent of the inventory in value.

The counting is done by the people in charge of the inventories, accompanied by representatives of the accounting department, working in teams of two. The accounting department representative makes his count independently and does not announce his count to his team mate. The results of the count are checked with the perpetual inventory cards, and any small differences are adjusted. If large variations occur, recounts are made before adjustment.

MR. HEALEY: It looks as though this unnamed and unmentioned incident has done a great deal toward making us think a little deeper into our inventory problems.

Do you find much variation between the count turned in by the accounting people and the people who are more familiar with the materials?

MR. LUDWIG: No, we have not found much variation between the count turned in by the accountants and the people who are familiar with the material, as most of the materials are in containers and marked as to material and weight. Materials in storage tanks or in piles are taken by measurement and calculated by weight factors per unit of cubic content to obtain the quantity in stock.

Referring to the discussion by previous speakers, as to which department of a company should have control of inventories, I wish to mention that in our company, the maintenance and construction stores are under the supervision of the plant engineering department. Crude material, goods in process and finished products are supervised by the production management, and finished products in branch warehouses are supervised by the sales department. Quantities of goods to be produced and stocked are determined at a meeting of the sales and production management on the first of each month based on known and expected sales for the month.

The purchasing department has no control over inventory quantities; its function is confined to purchasing material of the desired quality at advantageous prices.

CHAIRMAN NAYLOR: Is there anyone who has difficulty in storing the material so that one not familiar with it can make an accurate count? Frequently production men can get a pretty accurate count, whereas a stranger has great difficulty.

EMORY A. AUSTIN (*General Auditor, Hammermill Paper Co., Erie, Pa.*): I think a differentiation should be made here, or some place in the discussion, for the benefit of companies which use large quantities of bulk material, such as paper manufacturers and steel manufacturers, where the materials are not weighed or counted into process except in a very general way, such as "a cord of pulp wood," "a large quantity of sulphur or limestone," etc.

Of course we depend upon a strict control of the purchasing, and through the purchasing inventory, of the quantity against a physical inventory at the end of every month.

CHAIRMAN NAYLOR: In other words, you figure that theoretically you should use so much and see what the loss is?

MR. AUSTIN: Yes.

CHAIRMAN NAYLOR: Is there any other way of handling that? It is not always as simple as we make it appear.

FRED W. WERNER (*General Steel Castings Corp., Granite City, Ill.*): In our company we use all the methods. We have on hand a large quantity of general supplies, and we also have large inventories of bulk materials, such as pig iron and scrap. We never take a complete physical inventory of our supplies at one time. This inventory is controlled by a series of bin checks taken during the year by one man who is constantly checking bins. He counts one bin and starts right in on another. That is his job.

With bulk materials it is exactly the opposite. At the end of each month the plant accountant or a representative from the plant accounting office, in conjunction with some member from the operating department, generally the storekeeper, sometimes accompanied by the assistant to the works manager, goes around and inspects the piles of bulk materials and forms a general idea of the amount on hand for comparison with the records of the weight of materials actually taken out of the piles and received into the piles.

At the end of the year a physical count is taken of our work-in-process inventory, representing the actual casings on hand. However, during the year we frequently check this inventory and where the accounting department records and production department records do not agree, physical counts are made to determine the accuracy of the number of steel castings on hand as shown on these records.

ACCEPTANCE OF PERPETUAL INVENTORIES BY AUDITORS

CHAIRMAN NAYLOR: In the case of the materials where you have a continuous check, is the book record then acceptable to the auditors at the end of the year, if there has been a recent check, say within two or three months?

MR. WERNER: It has been. We generally attempt to make two complete bin checks during the year, and our second bin check is completed within a few days before the physical inventory for the current year is taken off for purposes of the annual statements.

CHAIRMAN NAYLOR: In other words, you stage the verifications so that they will coincide more or less with the audit dates?

MR. WERNER: That is true. Yes.

CHAIRMAN NAYLOR: Is there any other way of handling it?

MR. STEINHAUFEL: Our material counting is handled by the material accounting division of the cost department. They also put on the valuations and summarize. We make it a policy on the items perpetually controlled, to check them, as this gentleman says, twice a year, but we attempt to make one of those checks when the inventory is at its lowest. It is easier to verify the count at the re-order stage and time is saved by concentrating on the fast moving items which, being active, are more subject to errors in posting. These fast moving items are given preference, but all of them are checked physically at least twice a year.

CHAIRMAN NAYLOR: That would seem to save a great deal of time, if you checked when the material was low. It would take very little time to count.

Has anyone done that and had difficulty in explaining to the auditors why a physical inventory need not be taken at the end of the year? In other words, if it turns out to be accurate in most cases, is a physical inventory still required?

MR. FALKENRATH: Our stores inventory, which is a perpetual inventory, after having each item checked for quantity at least twice during the year, is submitted to the outside auditors at the time of the physical inventory. The outside auditors and their assistants make their own independent check by spot-checking all the valuable items. In other words, the outside auditors spot-check stores against the perpetual inventory records and, if satisfied as to accuracy, there is an approval on it, and on this basis the perpetual stores inventory is included as the physical inventory.

MR. LUCE: This question of auditors accepting as part of an inventory, certain supply items not physically counted, can be answered in the affirmative. In one case, the auditors did accept a certain per cent of our supplies inventory which was not physically counted.

CHAIRMAN NAYLOR: But verified during the year?

MR. LUCE: Yes, verified by the storekeepers.

AUDITOR'S VERIFICATION OF INVENTORIES

MEMBER: There has been a tendency to have public accountants observe stocktaking when the corporation is taking its physical inventory. We take our physical inventory on October 31. This year we did not have the auditors observe the taking of the stock. Now I have heard a rumor to the effect that the Securities and Exchange Commission is taking exception to auditors' certificates in which they did not observe the taking of the inventory.

I wonder if there are any corporations represented here where the Securities and Exchange Commission has taken exception to their audits because the certificate didn't indicate that the auditors have observed the taking of the actual inventory?

CHAIRMAN NAYLOR: Does anyone want to discuss that point? I hardly think any audit is being made that does not make some ex-

haustive tests, and the auditors may even go so far as to inventory some items, but I have heard of a very few cases where the auditor attempts to make a complete inventory.

MR. KAYSER: I happen to be in public practice myself, and we have one account on the Pacific Coast on which we supervise the entire inventory.

Incidentally, aside from everything else, it makes it much cheaper for the clients, for we simply go in and send one man or two to each location. The company supplies all the inventory crews who are entirely familiar with the product, so that they can go through the stores with maximum speed. We use a duplicate inventory sheet and cards.

The names of the warehouse men are turned over to us, and we arrange the crews ourselves. The warehouses are marked out by locations. We assign the crews to different locations, and assign check crews so that there is no duplication. One crew never checks their own work, and they never know in advance who is going to do any particular section. The completed sheets are turned over to us and we assign them to calculators. They are calculated twice under our control. In addition to that, we spot check many of the larger items. In other words, we do much the same work the firm's own accounting departments might be expected to do and it only takes us a couple of days to finish the job.

This has worked out very satisfactorily and has reduced the auditing cost considerably.

CHAIRMAN NAYLOR: You wouldn't say that such a case is frequent, would you? It is, rather, an exception?

MR. KAYSER: Yes. We have only one but it is a satisfactory method.

CHAIRMAN NAYLOR: I would like to restate a question. You need not announce your name. Is there anyone who has had the Securities and Exchange Commission question the thoroughness of the audit or inventory certificate by public accountants? I have heard of no instance. There are varying degrees of care taken. I don't want to pry into anyone's affairs, but if there is anyone who has had the Securities and Exchange Commission question the thoroughness of the

work done by the public accountants I think it would be interesting to know.

Apparently there are none.

RUDOLPH SCHNAKENBURG (*Controller, Servel, Inc., Evansville, Ind.*): Speaking of this so-called incident, it has been our practice for years to have an auditor present at the taking of our physical inventory, and we have felt it was money well spent, because it has a certain psychological effect on the men who are actually doing the counting when they know there is an auditor present. They have a certain holy fear of his coming in to check them and we have felt for some time that having the auditor spot checking the larger items insures an accurate inventory.

L. W. CORBETT (*Cost Accountant, Frederick Stearns & Co., Detroit, Mich.*): Being in the same industry or line of endeavor as this unnamed firm, may I offer these facts to this session? We have for many years past had our outside auditors present during the period of taking the inventory. They review our inventory procedure and make test checks of quantities and costing. We consider this one method of safeguarding our inventory.

ALBERT E. WILSON (*Cost Accountant, Imperial Paper & Color Corp., Glens Falls, N. Y.*): How do you handle that problem when your companies are scattered all over the country? Suppose you had warehouses all over the country.

CHAIRMAN NAYLOR: The question is: If you have your material scattered all over the country, does the auditor check such inventories or depend on a certificate?

MR. FALKENRATH: Our warehouses and service branches are located throughout the United States, and in order that the inventory may be certified as to correctness, the accounting concern which audits our accounts have their representatives at their various offices located throughout the United States check and certify the inventory results at the respective locations of our branches and warehouses, and forward their findings to their St. Louis office to be included in the final verification of the inventory results.

CHAIRMAN NAYLOR: They go to the warehouse and have the materials pointed out?

MR. FALKENRATH: Yes. We furnish our auditing concern with the addresses of all our warehouses and branches so that they can make arrangements with their office managers in those localities to have their auditors in our branches at the time the inventory is taken or immediately thereafter. We also notify our various branch managers of this arrangement, thus permitting the outside auditors to make whatever inventory check they deem necessary for verification of the inventory.

CHAIRMAN NAYLOR: While we are on that subject, how many of you have your own men, or district men, or men from the head office, verify periodically the amount of material in warehouse stocks? May I see hands on that. That seems pretty general.

J. BRUCE HAYDEN (*Cost Accountant, Frankfort Distilleries, Inc., Louisville, Ky.*): Since this question has been brought up, I would like to tell you about our inventory problem. I would say 90 per cent of our inventory value represents whiskey in bonded warehouses which are under the supervision and control of Uncle Sam.

We find it pays us from time to time to check up on Uncle Sam because his memory is not as good as it used to be. About every three months we make a practice of spot checking various bonded warehouses. I don't know how many of you fellows know anything about the whiskey business, besides drinking it, but every barrel of liquor has a serial number recorded in goodness knows how many different places, but you can find it in plenty of government offices. We go into the warehouses under supervision, inspect every package and check with our own records, and if there is any difference in total accounting we go back and identify serial numbers, and we find from time to time, as I said, that our Uncle's memory is slipping. Somebody forgot to use the other end of the pencil.

In regard to permitting the public accountant to check inventories, we are in favor of letting down the bars. In fact we did that a long time before this anonymous incident. A long time ago I heard that the best way to check an inventory was to answer two questions: One is, "Is the inventory there?" and the other is, "Is it what the bill

says it is?" If you can answer those two questions, you can satisfy almost everybody concerned.

CHARLES W. TUCKER (*Controller, H. P. Hood & Sons, Inc., Boston, Mass.*): Mr. Chairman, in connection with the staggered physical count method, in lieu of a complete simultaneous count of all items, it should be emphasized that regardless of whether counts are made at low points, all items should be verified at least once during the fiscal period.

CHAIRMAN NAYLOR: I believe, on the poll, at least one half take them oftener than once a year.

MR. TUCKER: The point I am trying to make is that frequently it is thought that the only time to make physical counts is when items are at their lowest points, but inasmuch as some items turn over slower than others, it is entirely possible that certain items wouldn't be counted even once during a fiscal period. So, as I said before, from an auditing standpoint, it is well to emphasize that regardless of when low points occur, all items should be counted at least once during the fiscal year.

CHAIRMAN NAYLOR: That, gentlemen, is what I want to emphasize more than anything else. There is no cut and dried plan for verifying any of these items. Some items, perhaps, should be verified when at the lowest count, and others periodically take care of themselves. You must adopt your own plan to suit your own particular problem.

VERIFICATION OF QUALITY AND CONDITION

WILLIAM BLACKIE (*Controller, Caterpillar Tractor Co., Peoria, Ill.*): The comments we have had so far, it seems to me, have related only to counting for inventory quantities; but, to obtain a proper valuation, consideration must be given also to quality and condition, and I think the discussion might profitably be directed into that phase of the subject.

MR. SCHNAKENBURG: There is a definite responsibility in our plant for keeping all defective material out of the way, and we try to

add to that by placing as many inspectors as possible on the inventory counting staff. We utilize practically every inspector in the plant in this counting crew. That's the method we use to keep all dead material out of the way. Before taking the physical inventory we make a drive with the inspection department to see that all of that type of material has been cleaned up.

MR. LUCE: The following may be of interest in answer to Mr. Blackie's question on quality. We use an elaborate aging scheme after the physical count is made of finished goods, raw materials and goods in process. We analyze them and show how much of these were current year's production, how much a year old, how much more than two years old, and the valuations are applied accordingly.

CHAIRMAN NAYLOR: Is that what you were referring to, Mr. Blackie?

MR. BLACKIE: It doesn't answer the question from the public accountant's angle. We can do as the gentlemen suggest, but how can the public accountant satisfy himself that we have done so?

THE HUMAN ELEMENT

CHAIRMAN NAYLOR: I think we are ready for the last phase of the discussions—the human element. I, for one, thoroughly believe you will never be able to take the place of honest management. There are going to be cases from time to time, in spite of all the checking and systems and double checking, when you are going to have trouble, for there comes a time when you must depend upon the honesty of a man—not of one man, but of a company or a group. The element of quality is of importance here.

I remember hearing a discussion in New York a short time ago. Some of the oil men said, "It is absolutely impossible for any outsider to determine accurately the inventory of some items. For instance, here is a big drum of oil. Suppose, for the sake of argument, we draw half of that out and fill it up with water. The oil rises to the top. You put your measuring stick into the tank. It looks as though the tank were full of oil, but it isn't." In other words, there comes a time when, in spite of all mechanical safeguards, you must depend upon honest management. And that shouldn't worry us, for the ma-

jority of responsible people are honest. These things occur once in a while and create quite a furor, but after all it merely emphasizes the need for mechanical methods and honest men.

To answer your question, I think there comes a time when, having used all the safeguards there are, you find there is no way an outsider, or even the internal management, which is in a better position to do so, can guard against the occasional theft or wrongdoing of someone in the organization. Don't you feel that way about it?

MR. BLACKIE: The main doubt in my mind is whether it is worthwhile taking elaborate steps to obtain independent confirmation of inventory quantities where responsibility must be placed upon the management for the quality or condition upon which will depend its usability or salability.

CHAIRMAN NAYLOR: I think everyone who has spoken thus far has mentioned verification of the quantity. When it comes to quality, you run into the human element. You are dealing with the category of supervisors, people who should be more than stocktakers or stockkeepers. It seems to me that in every organization there should be a committee or a department that does nothing but study inventory records, just as the credit department ages accounts and studies the quality or, you might say, the worthlessness or worth of the accounts. It seems to me we have placed too much emphasis on the quantity.

On the other hand, I think it is the quantity that causes the most difficulty rather than the quality.

HOWARD LOREE (*Trico Products Corp., Buffalo, N. Y.*): It seems to me that there must be assurance of quality because work that is fabricated has to go through a certain amount of inspection and if it is not in proper shape, the customer, when he gets it, rejects it.

In our plants, whenever a part becomes slow moving we put it into an inactive inventory and that is written off from the inventory altogether. No value is placed on it.

CHAIRMAN NAYLOR: It is time to adjourn this meeting. In closing, let me emphasize the importance of diagnosing each individual case. It is a far cry from reading in a book the theoretical procedure to diagnosing your own case. Here again we stress the human element.

I thank you for your attention. The meeting stands adjourned.
... The meeting adjourned at three-twenty o'clock . . .

INVENTORY PROBLEMS OF SMALL COMPANIES

Chairman: JAMES P. COMPTON

Auditor, American Asphalt Roof Co.,
Kansas City, Mo.

CHAIRMAN COMPTON: While at first glance it might appear that the inventory problem is the same in all companies regardless of size, and fundamentally this is true, when we consider the aspect of cost in relation to control of inventory, the picture changes drastically. In the larger companies, we usually find more employees engaged in the task of inventory control than are normally found in the entire office organization of a concern doing a one to two million dollar annual business. The first problem of the small company, therefore, resolves into getting the job done at a cost that is not prohibitive.

These introductory comments are not offered as a solution to the problem mentioned. Their primary purpose is to provoke discussion from the floor. By this means it is hoped that the members in attendance will benefit through this exchange of practice and ideas.

First, let us reach a meeting of minds on a definition of inventory. For retail and wholesale institutions, it consists of merchandise or stock in trade. In manufacturing concerns, we usually find four classifications: raw materials, work in process, finished product and supplies. From the balance sheet aspect, it enjoys third place in the current position, preceded only by cash and receivables. Much more difficult of control than either of those classifications, it really represents the ammunition of the commercial army. It should be guarded as zealously as a military force protects its supply lines.

Control of inventory has numerous objectives: to prevent theft and pilfering, to detect waste and spoilage, to assure that production is properly charged with materials used, and last and most important, that stocks are always adequate for proper conduct of the business, but not excessive to the extent that capital is needlessly employed.

The importance of these objectives varies with the type of business. Manifestly, the first, theft and pilfering, is more important in the shop of a lapidary than it is in a steel mill, where immobility of

product and low cash value provide reasonable safeguards. To a manufacturing jeweler, waste and spoilage are of major importance and to an enterprise specializing in cost-plus contracts, the proper charging of material into operations represents the difference between profit and loss, but all of these different types of concerns are interested in sufficient but not excessive stocks.

For purposes of discussion, let us consider the important question of adequate stocks first. Two divisions should be made before method of control is determined, namely, finished product and raw materials. The ideas here expressed are based upon the requirements of a process operation with an annual volume of approximately two million dollars. It may be possible to control stocks of finished products without a perpetual inventory, but how is inscrutable to the speaker. A daily perpetual inventory is necessary for the production department in planning runs. It provides the sales department with a constant picture of the stock so that obsolescence, where that is a factor, may be minimized. Good roads have radically changed customers' inventory policies within the past ten years. Smaller inventories are a general practice, the dealer depending upon his ability to pick up, frequently with his own transportation, small quantities at regular intervals. Quite often, the first intimation that the manufacturer or jobber receives that his customer is in need of merchandise, is when his truck pulls up at the dock and if he is unable to fill the order, he usually loses the business. The perpetual inventory properly maintained, prevents such a contingency.

While the cost of maintaining a record of this type depends upon the number of items involved and the quantity of transactions, it would appear that in the majority of cases, one clerk should be able to encompass the task as a full time operation. Our own practice is to deduct from our inventory record the quantity required as soon as the order is received, instead of waiting until shipment is made. This method appears preferable to us in that it shows at all times the available stock. When physical inventory is taken, reconciliation with book figures is necessary to account for unshipped orders, but this is never a large task and the advantages of the arrangement appear to greatly outweigh this minor objection. With a little additional work, an even more accurate picture of stock is possible. At the close of the day's business, orders shipped can be designated on the stock sheet by an appropriate check, thereby showing free stock and stock on hand against which orders have been filed. This plan

permits expeditious handling of distress business. Our industry is frequently called upon to repair or replace the damage caused by tornado and hail and all business of this character takes precedence over anything else.

Raw materials in the operation pictured, consist of bulk commodities; i.e., bins of ground minerals such as mica, slate and talc, tanks of crude oil and its derivatives and huge rolls of felt weighing 1,000 to 1,500 pounds. A perpetual inventory for this class of materials has never appeared practicable, so other means were devised to prevent the machines from shutting down for lack of stock or paying five dollars per day demurrage on cars on the track which could not be unloaded for lack of storage space. The first problem is the determination of maximum and minimum quantities. Maximum stocks are usually that quantity which can be put away with existing storage facilities. Few concerns have unlimited storage space and while full bins of raw materials represent an investment, unless the commodity is subject to violent price fluctuations, no loss need be anticipated merely because inventory is high. Determination of a minimum level is a bit more difficult and, of course, errors in judgment much more serious.

Where a sales forecast is prepared, the scheduling of material arrivals is simplified. Production schedules can be prepared from the sales department's idea of what will be needed and the arrival of stock synchronized therewith. Even where a sales forecast is not available, some help in determining maximum and minimum requirements will be gained from a survey of demand in prior periods. While it is accepted that what has happened in the past is not necessarily a guide to the future, such a study will prove helpful to the solution of the problem, particularly for stable lines of merchandise. In place of setting minimum requirements, many firms establish an ordering point and this practice is advocated by Mitchell in his book entitled *Purchasing*.

The formula advocated is as follows: Determine normal quantity required per day multiplied by number of days necessary to secure additions, times one and one-half; viz., ten per day times thirty-day delivery, times one and one-half equals 450, or the ordering point.

When a perpetual stock record is maintained, the maximum and minimum quantities are noted thereon and the stock record clerk is responsible for advising the purchasing department of the need to increase or curtail shipments. In the absence of such a record, other

means must be found to accomplish the desired result and a simple way is to segregate stock into two divisions which, for designating purposes, we will call normal and reserve. Encroachment on the reserve stock indicates the ordering point and the storekeeper under this arrangement is required to give the necessary notification to the purchasing department. Any system which provides the necessary warning without expense or cumbersome record keeping meets all requirements. For packaged goods, a red signal of some sort placed at the ordering point does the job and for commodities in bins or tanks, a red stripe painted on floor or walls serves to point out that the stock is getting low.

Detection of waste and spoilage and the proper charge to production of materials are natural attributes of a standard cost system. In the operation pictured, these aspects of inventory control are accomplished by a system of standard costs in conjunction with a monthly budget. Standards are set in terms of pounds for the materials required to produce the various finished products. Production is recapped for the month, multiplied by the standards allowed and to the result are added seconds and scrap made. Thus we know what should have been used in production. This figure is then compared with the actual consumption as determined by a monthly physical inventory.

The thought of a monthly physical inventory is somewhat appalling, but in the absence of a perpetual inventory, it is essential to the operation of any cost system. Among the papers to be presented tomorrow is one entitled "Streamlining Your Overhead Methods." Equally pertinent to many concerns is the possibility of streamlining their inventory methods, particularly with respect to physical count. Much thought was given to the problem before our company inaugurated its present policy, with the result that the operation takes scarcely a measurable amount of time. I realize that perhaps all concerns are not as favorably situated in this regard, but some of our practices may contain a thought for someone else. We pre-list our inventory sheets which obviates the necessity of writing a description of the commodity and also tells the counter how we want the item reported; i.e., per thousand, dozen, gross, etc. Under this arrangement, a beginner can take an inventory almost as quickly as a veteran employee and it permits the use of a greater number of our people in the task. Some help may come from a study of purchasing procedure. Most items cost less if bought loose or unpackaged, but the cost of handling will perhaps more than offset the saving realized in price as well as im-

peding inventory count. We used to buy empty pint cans in bulk. The unloading was done by scoop shovels into sacks, then carried to the stores room. Counting at inventory time was a nightmare and some spoilage resulted from this method of handling. A time study was made of this unloading job to determine labor costs, then a price was secured for the cans packaged. The final result was a lower cost per thousand cans delivered to the stores room, spoilage eliminated and inventory possible in five minutes. Not all changes were this favorable, but they did result in speeding up the job. Paper stock, once counted by sheets, is now reported in inches, the number of sheets per inch having been predetermined. Liquid materials are in caliper tanks and a reading of the contents in inches gives volume of material therein.

There are three contingencies which no system of inventory control can prevent. They are strikes and riots, acts of God and human error; so despite all safeguards, we sometimes run out of merchandise.

In the opening paragraph of this paper, it was stated that it was offered as a basis for discussion. The practices outlined are in use; the speaker hopes that deficiencies can be pointed out and suggestions for improvement made. The question is now open for discussion from the floor.

* * * * *

INCLUSION OF TRANSPORTATION COSTS IN INVENTORY

Following his introductory remarks, Chairman Compton referred to the suggestion made by Mr. Bennett at the morning session that transportation costs should not be added to the inventory value of raw materials, and offered Mr. Bennett's further explanation that in making this statement he had not intended to include bulk materials purchased in large quantities, but only the material purchased in small quantities at more or less frequent intervals. The objection was raised that following this practice would result in a difference in the inventory value of different purchases of the same material due solely to F.O.B. points. Local purchases might be shown as more costly than those obtained from distant points, because of the exclusion of the transportation cost in the latter case.

In answer to a question from the floor Chairman Compton stated that the method Mr. Bennett preferred involved charging transportation costs to manufacturing burden. This brought forth the objec-

tion that the treatment of transportation costs on raw materials as an element of burden would cause distortion in the costs of one month as compared with another unless some plan of deferring the transportation cost was used, so that it was charged into process in proportion as the material was used. It was pointed out that large purchases and low production in a single month would result in excessive transportation costs being charged against that month's production. It was contended that this result would follow under a standard cost plan as well as under a job cost plan, unless the practice were followed of carrying forward the burden variance resulting from last month's high transportation costs.

At this point the method followed by the F. A. Smith Manufacturing Co. of Rochester, N. Y., in handling transportation costs as an element of burden was described. In this company, transportation costs as incurred are charged to factory burden. A ratio of transportation costs to raw material purchases, based on five years' past experience, is used in charging production for the transportation cost as raw material moves into production. Any difference between the costs incurred and the amount absorbed in process is referred to the purchasing department for explanation. The opinion was expressed that this method of handling transportation costs had a good psychological effect on the purchasing department.

In answer to an inquiry as to how receiving department costs and raw material storage costs were usually handled in the accounts, it was conceded that it was the usual practice to treat such costs as a part of manufacturing burden.

INVENTORYING WORK IN PROCESS

On a question from the floor regarding the frequency of taking physical inventories of work in process, there was no indication that the companies represented took such inventories more often than once a year. In this connection, the inventory practice of the Monroe Calculating Machine Co. was described. This company has a considerable quantity of parts in process at all times, controlled by perpetual inventory records. A continuous check or staggered count is carried on during the year with a complete physical inventory at the end of the year. In making the continuous check it is not necessarily the practice to wait until a part has reached the minimum ordering point before checking it, but definite sections of the inventory are

checked each month, so that in the course of a year each item in the inventory will have been checked two or three times. It was pointed out that this plan resulted in accurate perpetual inventories, made possible the weeding out of obsolete parts and provided the management with more accurate data on which to base their plans.

STANDARD MATERIAL PRICES

A company using bar steel was utilized to illustrate the value of establishing standard raw material prices. Variations in raw material prices over a period of time create a problem in costing which can best be solved by the use of material price standards, in the opinion of this member. He argued that for each raw material there is a price at which the material should be purchased, and any variations from this price should be the responsibility of the purchasing department. In the purchase of steel, variations in price due primarily to purchasing from warehouses instead of mills and to purchasing in less than carload lots instead of in carload lots were usually signs of purchasing inefficiency. However, further analysis might indicate that the excess cost was due to failure to anticipate requirements in the sales budget, or to excess spoilage or waste in production.

DISPOSITION OF MATERIAL VARIANCES

In response to a question on the disposition of variances from raw material standards, the practice of Caspers Tin Plate Co. of Chicago was described. In this company all purchases are charged to the raw material account at a standard price, and the difference between actual and standard is set up as a material price variance. In addition, usage standards are applied to production for the month to arrive at a standard allowance which is compared with actual consumption to determine a material usage variance. These two variances are kept separate, but at the end of the month they are both shown on the profit and loss statement as deductions from standard gross profit and at the end of the year they are closed into the profit and loss account. In the case of credit variances, the per cent which the purchase price variance bears to total purchases is calculated and applied to the raw material inventory and to the material content of the goods in process and finished goods. The resulting balance in the

variance account is treated as a profit and loss credit applying against the value of the raw material contained in the goods sold.

INVENTORY VALUE OF GOODS MANUFACTURED TO ORDER

The practice in industry of valuing inventories as low as possible as a means of reducing taxes was characterized as a "fetish" by a member in public practice, who then asked for an expression of opinion on whether it was ever proper to value a finished goods inventory at a figure in excess of manufacturing cost. He described the case of a client who manufactured only on order, but carried a considerable inventory of finished products awaiting customers' instructions to ship. The goods were carried as inventory rather than receivables because they had not been billed or shipped. Since most of the selling and administrative cost connected with these orders had already been incurred, the company followed the practice of valuing these finished goods at a figure in excess of actual manufacturing costs.

In response to a question on how the selling and administrative costs included in the inventory valuations were arrived at, it was explained that the inventory valuation was obtained by working backward from selling prices. An analysis is made to determine the additional costs to be incurred in completing the sales, shipping the goods and collecting the accounts. This is combined with a normal profit figure and the total deducted from selling price to obtain value for inventory purposes. The view was expressed that this method was somewhat similar to the method of valuing finished goods inventories used by the meat packing companies.

TAXES AND INVENTORY VALUATION

The relation of taxes to inventory valuations was again introduced when it was pointed out that the method described would result in higher reported income and taxes for the year of its introduction, but that this would be more than offset in future years due to constantly increasing tax rates, to which others agreed. It was suggested that a reasonable value for inventory was of further advantage in connection with use and occupancy insurance. It was agreed that the client in the above case had always operated at a profit, but the opinion was expressed that no change would have been made in the inventory

basis if some loss years had been included. No difficulty with the taxing authorities had resulted from the use of this method of valuing inventory.

The relation of inventory valuation to taxes was developed by a member from a company which manufactured to customers' orders but often had delivery delayed for some time. He pointed out that under these circumstances production and sale often took place in one year but that profits were not taken and taxes paid until the next year. He argued that the profit was actually made in the year of sale and production rather than in the year of shipment, and contended that the accountant should give some consideration to the question of recapturing all costs in the first year and possibly some part of the income. This would be done through the valuation placed on inventories.

Chairman Compton suggested that the ideas expressed represented no great departure from established practice and pointed out that a contractor building a bridge which would require three years to complete would normally take a portion of his profit at the end of the first year based on the portion of the contract completed. To throw all of the profit into the one year in which the contract was completed and to pay undistributed profits taxes and excess profits taxes on that basis would be commercial suicide, in his opinion. This view was supported by a member with a company which had such contracts, who went on to say that for tax purposes a profit or loss taken at the end of the first year of a contract can be offset against a loss or a profit in the second year when the contract is completed. He suggested that it might be possible to extend this carry-over provision to a third year. He described a case where a profit had been reported in the first year, based on fabrication of steel for a contract on which the erecting was done in the second year at a considerable loss. For tax purposes the reported profit of the first year was allowed to be carried forward as an offset against the loss of the second year.

RESERVING GOODS ON ORDER

In his introductory statement, Chairman Compton had described the practice of his company of deducting from the perpetual inventory records the quantity of a product ordered by a customer at the time the order was received, instead of waiting until the goods were shipped. The opinion was expressed at this point that this would

result in additional clerical work because of the need of a further reference to the records at the time the goods were shipped. It developed that the company with which the member raising this objection was connected had at all times an inventory of approximately 20,000 parts, whereas Chairman Compton's company handled only 400 products. The clerical problem of the two companies was quite different for this reason. Somewhat similar plans for reserving finished stock to cover customers' orders were described by a member connected with a manufacturer of insecticides and a member connected with a manufacturer of gas equipment.

VALUATION OF RAW MATERIALS FOR COMPANY MANUFACTURING STYLED NOVELTIES

A question involving the basis for the valuation of the raw materials of a company manufacturing styled novelties was presented. In the company in question the raw materials used one season may not be used the following season because of style changes, and it is not possible to determine in advance just what material will be used in producing the new season's styles. The raw material might be in first class shape but the cost of reselling would almost equal the proceeds. In answer to this inquiry a member described the problem faced by his company in the valuation of finished products and their component parts due to style changes on January 1 and July 1 each year. This company, manufacturing furniture, had provided an extra incentive to their salesmen by granting an increased commission on obsolete goods sold during the first month of the new season or allowing the salesmen to cut prices an agreed per cent without receiving the increased commission. The added sales cost and loss due to obsolescence were anticipated and absorbed into costs during the six-month period in which the goods were produced. This company's problem was largely one involving obsolete finished goods, since approximately 75 per cent of their inventory on the average was in finished stock, and raw materials were not ordinarily rendered obsolete due to a change in style.

In further elucidation of this point, the practice of another company with its problem of obsolete inventory was described. In this company an executive committee has the function of picking out finished products which are approaching obsolescence. These are valued at the sales department's estimate of selling price less a 25 per

cent discount, and this valuation of finished goods is accepted for income tax purposes. In the case of obsolete raw materials, it is the practice in this company to continue to carry the raw material account at cost, but to use an inventory reserve provided out of surplus to reduce the value of the obsolete raw materials to their sales value as junk. However, this reduced valuation is not permitted for income tax purposes.

VALUATION OF INVENTORIES UNDER STANDARD COST PLAN

The question of the basis for valuing inventories where standard costs are used was raised by a member who inquired whether it was proper to use the lower of standard or actual costs in valuing finished goods under the standard cost plan. The experience of those present indicated that the lower of cost or market was the usual basis of valuation even under a standard cost plan, but it was pointed out that if the standards for the new year were based on market, the same results would be obtained by using new standard costs as would obtain from the use of market values.

INCLUSION OF FIXED COSTS IN INVENTORIES

The question of the exclusion of overhead from inventory values was raised by a member who said he had heard that some companies excluded overhead costs from their inventories. Chairman Compton expressed the view that the problem related only to fixed burden, since, in his opinion, variable overhead was a logical part of finished goods value. It was pointed out that the principal argument in favor of the practice of excluding fixed overhead from product costs was the variations in costs arising from extreme changes in the volume of production. The opinion was expressed that consistency in treatment was more important than the method used, since it will not matter greatly whether fixed overhead is included in inventory values over a period of years if the plan adopted is followed consistently.

* * * * *

The following members participated in this discussion:

J. Dozier P. Arnold, F. Hopkinson Smith & Co., Birmingham, Ala.
Joseph Baumann, Manager, Industrial Accounting Division, Alt-
schuler, Melvoin & Glasser, Chicago, Ill.

- Alfred G. Block, Secretary and Treasurer, Barnes Drill Co., Rockford, Ill.
- Leslie W. Cox, Cost Accountant, Caspers Tin Plate Co., Chicago, Ill.
- A. Olin Doffort, Controller, Baldwin Laboratories, Inc., Saegertown, Pa.
- Thomas B. Dunn, Auditor, Kansas City Structural Steel Co., Kansas City, Kan.
- Alex P. Fox, Vice President and Treasurer, Lincoln Engineering Co., St. Louis, Mo.
- Howard A. Giddings, Staff, Leach, Rindfleisch & Scott, Richmond, Va.
- William L. Hausman, Resident Manager, Barrow, Wade, Guthrie & Co., St. Louis, Mo.
- Edward C. Karmgard, Accountant, Cleaver-Brooks Co., Milwaukee, Wis.
- Harold A. Ketchum, Controller, F. A. Smith Manufacturing Co., Rochester, N. Y.
- Arthur M. Manweiler, Cost Accountant, American Meter Co., Inc., Albany, N. Y.
- Claude L. Morphew, Staff, C. D. Buffon & Associates, Chattanooga, Tenn.
- A. F. North, Controller, Allen Bradley Co., Milwaukee, Wis.
- J. E. Pietzuch, Controller, Camden Furniture Co., Camden, Ark.
- George C. Pulliam, Jr., Staff, Frederick D. Craig, C.P.A., Kansas City, Mo.
- Charles F. Read, Cost Accountant, Maryland Glass Corp., Baltimore, Md.
- D. D. Richardson, Treasurer, Monroe Calculating Machine Co., Orange, N. J.
- Irvin H. Stark, Chief Cost Accountant, Milwaukee Gas Specialty Co., Milwaukee, Wis.
- Charles H. Turner, Assistant Treasurer, Woodward Governor Co., Rockford, Ill.
- Robert G. Waring, Assistant Treasurer, Butler Manufacturing Co., Kansas City, Mo.

FINISHED GOODS INVENTORY PROBLEMS

Chairman, NELSON L. McCULLY

Controller, Bauer & Black,
Chicago, Ill.

CHAIRMAN McCULLY: The subject of this discussion is "Finished Goods Inventory Problems." This involves the control problem, balances, obsolescence, deterioration, etc., the basis of valuation, including problems of normal overhead, standard costs, administration costs, etc.

I was given a number of instructions regarding the handling of these meetings. One of them was that the discussion leader is supposed to make a brief statement. The purpose of that statement is to keep the discussion within bounds and to insure the coverage of the subject. I can assure you that it is impossible to define the bounds of a subject as broad as finished goods inventory problems.

I fail to think of any phase of business, save of a purely service business, the discussion of which could not be led into that of finished goods inventory problems with a minimum of manipulation.

Another instruction was that the discussion leader is not supposed to answer any questions. I shall be fidgeting here because of that restriction.

There are three obligations which you accept in attending these meetings. One is the obligation to ask questions, if you have questions. The second is the obligation to express your opinion, or give the answer if you have found an answer to any question which has been raised. The third obligation is to make whatever contribution you can to the subject under discussion, whether or not a question has been raised.

What is the finished goods inventory problem? We have made a lot of progress in the last several years in making inventories a real problem. When I went to work back in 1911, the finished goods inventory problem was simple. It just took up a lot of time once each year. Once a year numerous sheets on which quantities of merchandise were listed were delivered to the general office. From some source costs were determined, and these sheets were priced at those costs and extended. That was the inventory. By the difference

between inventory method, the profit or loss was determined. All of this was very simple, except that it did take some time.

What are the problems that have arisen to complicate our inventories? Are they problems which have always been with us and of which we have only in recent years become aware? How many of those problems are really problems of management, and how many are problems of tax and other forms of governmental control which we have allowed to overshadow the real problems of management control?

Most of us have grown up in the school that uses cost or market, whichever is lower, as a basis for valuing inventories. As stated, that seems like a very simple problem, but it is one of the real problems with which I am faced constantly. I doubt if there are any two people in this room who, if given the same set of data would arrive at the same cost of an inventory. What is the cost of an inventory? Is it the standard cost of the inventory? Is it the actual cost? If it is the actual cost, is it the actual cost of the specific goods that go into that inventory at a given moment?

I think of a company using standard costs. The standard costs for recent years have reasonably approximated actual costs. That company in a given year comes reasonably close to absorbing its burden. The normal finished goods inventory will be about a six-weeks average production. In the last two or three months of the year that company will be underabsorbing its burden because production will be lower than average. What is the cost of that particular company's inventory? Is it the actual cost including the actual burden of the particular six weeks in which the inventory was produced?

What elements properly are included in the cost at which inventories are valued? Is it the cost of manufacturing operations only, or does it include any part of the warehousing expense and any part of packing and shipping expense? Do any part of administrative expenses properly belong in the cost of the inventory?

Are there any goods that are physically on hand which later may be sold, which it is proper to leave out, or eliminate from the value of the inventory?

When we talk about the cost of the inventory it is probably going to be difficult to keep away from a discussion of market value of the inventory. What is the market value of an inventory? Should the market value of the inventory be reflected on the ledger at all times?

Now if one man has the answer to all those questions we will skip

right along as soon as he gives it. Who will be the first to raise a question or express an opinion on the subject?

FINISHED GOODS VALUATION RESERVES

ARNO E. PRESSPRICH (*Cost Accountant, Essex Wire Corp., Detroit, Mich.*): I would like to ask about inventory reserves. We handle a good deal of copper in our business. Of course it is a highly volatile commodity so far as price is concerned, at least it has been in the past. Today the price is fairly stable, and we are interested in establishing a reserve, if we can, to anticipate fluctuation in cost. We have several ideas in mind. I would like, if possible, to get ideas from others as to what to do with copper, tin and other items in much the same category. We handle several of them. Copper is what we are most interested in.

CHAIRMAN McCULLY: Your question, as I understand it, has to do with a valuation reserve? Are you referring to a reserve for your entire inventory or for only a part of the inventory?

MR. PRESSPRICH: We are interested in the finished and in-process goods. We can identify raw materials without a reserve.

CHAIRMAN McCULLY: Do you carry a reserve against those?

MR. PRESSPRICH: No, not at the present time. We leave it until the end of the year. From month to month we can determine the content of copper in our finished goods as a base for the reserve.

CHAIRMAN McCULLY: Is the reserve you are referring to, the difference between the actual cost and market cost at the end of each month?

MR. PRESSPRICH: Yes. It's a matter of determining in advance what reserve we should anticipate. That's why I am asking the question.

CLARENCE J. FALKENRATH (*Chief Cost Accountant, Wagner Electric Corp., St. Louis, Mo.*): Our raw material inventories are carried at actual, and a reserve is also included sufficient to take care of

any loss due to obsolete materials or slow-moving items. This reserve is adjusted annually to make it sufficient to cover all materials which have become obsolete in the past year. Any of these slow-moving materials, if they are used, are credited to the raw material accounts at their original cost, thereby maintaining this reserve at a sufficiently high figure to take care of all other contingencies which might arise in the raw materials. It is our practice, in the case of a wide fluctuation in our market of copper inventories, to set up an additional reserve under raw materials, sufficient to cover this fluctuation. This has been done in the past by charging profit and loss, and crediting reserve for stores inventory.

CHAIRMAN McCULLY: Does the final result on your balance sheet indicate that your inventory of copper is valued at market through the use of a reserve?

MR. FALKENRATH: Yes.

CHAIRMAN McCULLY: You say your inventory is carried at standard?

MR. FALKENRATH: No, our raw material inventory is carried at cost less reserve.

CHAIRMAN McCULLY: How many concerns represented here carry their inventory at standard values? Only three or four. Will one of those men volunteer to discuss what he does with the difference between standard and actual.

JOHN P. POWELL (*Cost Department Head, Marshall Field & Co., Manufacturing Division, Spray, N. C.*): We carry our inventory at standard. When we purchase raw materials we write the difference between cost and standard into an inventory reserve—a price variance reserve, we call it. That reserve is held until either that stock moves out on the turnover, at which time it is written back into profit and loss, or, if the inventory does not move out, it is held for the write-down of the inventory from standard to actual cost.

At various times we make a spot check to see if market is below cost, because in the final analysis we carry the inventory at the lower of cost or market for profit determination purposes. If the inventory at

market is below the cost, then we will set up an additional reserve to cover the reduction to market.

CHAIRMAN McCULLY: I think that is clear. Does anybody wish to take exception to that method, or is that the universal method?

Mr. Blackie, you have a very complicated inventory. How do you carry your control accounts?

WILLIAM BLACKIE (*Controller, Caterpillar Tractor Co., Peoria, Ill.*): We carry them at cost—at actual cost—and we use a basis of standard time to obtain our control of production labor. All of our inventories are carried at cost, or cost or market, whichever is lower.

I would like, however, to go back to the original problem about the copper in the finished product. The copper was presumably bought, let us say, two months prior to the question of valuation arising, and it was bought at the then prevailing market. In no way could the copper being quoted on the market have been used in the finished goods being valued because of the time element involved in production, and therefore I would like to ask why the gentleman wants a reserve. If the copper in the finished goods was bought in reasonable quantities in fair markets at the right time to arrive at a reasonable inventory of finished goods, why reduce its cost to that of a later market for raw material?

MR. PRESSPRICH: I would like to answer that right here. The selling price of this finished commodity is based directly on the market. We made it two months ago, but we can't recover that cost of two months ago.

WHAT IS "MARKET" FOR FINISHED GOODS?

MR. BLACKIE: In that case it seems to me that the finished inventory cost valuation should be reduced (or a reserve provided) because it is in excess of realizable value, not because of a decline in the market quotation for one of the component elements of cost. If labor rates were to decline between the beginning of processing and the eventual sale of the finished product, the question of reducing the labor element in the finished product from cost to market would probably not be raised, and, for industry as a whole, labor must be more important than material as an element of cost. The component mate-

rials of a composite product lose their identity as soon as they enter the manufacturing process and I see no good reason why they should be valued as something to which, in many cases, they can never return.

This brings up the point which really interests me—the problem of what is "market." To my mind, the market for inventory valuation as of a given date is the price which may be realized for the inventory *in the state or condition in which it exists at that date*. The market for raw material is, to the inventory holder, the open market quotation, not because the material can be bought at the particular price, but because the quotation presents a measure of current realization price; and the market for the finished product should, in my opinion, be the selling market because it also indicates current realization price.

In the case we have been discussing, fluctuations in the raw copper market had an immediate effect upon the selling price of the finished product and could, apparently, result in elimination of the entire profit margin based on original cost. Due to the drastic circumstances of the case it is not, therefore, a particularly good example for the point I have in mind and I would like to consider, for a moment, another commodity—beer (an appropriate subject for this town at this time).

I understand that beer should be in the production and aging process for seven or eight weeks. An inventory of beer ready to be drawn off and kegged or bottled at December 31 would, therefore, be comprised, in part, of hops, malt, etc., delivered possibly in September or October and bought at market some time in advance of delivery. In valuing this finished inventory at December 31 at cost or market, whichever lower, what justification would there be for reducing the original grain content (chemically changed in process) to a market quotation for some indeterminate quantity of hops or malt which, even if bought, could not be delivered and processed into consumable beer in time for the opening of the baseball season?

Sales prices for beer, as for any number of other standard packaged articles, tend to vary only when a long-term trend has indicated a major shift in the relationship of costs to selling prices. Where current selling prices will permit of full recovery of costs, there seems to be no real justification for reduction of the finished inventory valuation merely because of a fluctuation, of unknown duration, in the market quotation for some prime material. Such action distorts operating results by transferring profit from one year to another and, to my mind, does more harm than good.

I realize, of course, that the cost or market theory is based on a generally accepted quasi-economic premise that buying prices and selling prices tend to fluctuate (over the long term) in the same direction, but it seems to me that the accounting theorists have failed to see both sides of the proposition. They have elected to recognize only that a decline in raw material prices may portend a decline in finished product selling prices; and have failed to recognize that a decline in finished product selling prices may portend a decline in raw material prices. In the first case they hold that a possible decline in finished product selling prices should be anticipated and provided for by reduction of the finished inventory valuation to a lower reproductive market price; but in the second case they do not claim that a decline in raw material costs should be anticipated (in advance of its actual happening) *unless the selling price to which the finished product has declined will not permit of recovery of cost.* As long as the selling price of the finished product will permit of realization of any profit, they will not advocate reduction of the valuation of the raw material to a price below the then prevailing market (or cost, whichever lower) and, if this is acceptable in the theory or practice of valuing raw materials, it seems to me that application of the same reasoning to finished product valuation should be even more acceptable.

I know that these views run contrary to those held by many others, and Professors Sanders, Hatfield and Moore in *A Statement of Accounting Principles* have given their opinion that the "market" for finished goods is the cost of reproduction or replacement or the realization price, whichever lower. But, if a business must carry an inventory of finished product, it seems to me that the element of time required for reproduction or replacement must be taken into consideration and, in the case of the beer which I mentioned earlier, I would be prepared to consider cost of reproduction as a basis for valuation of the finished product only if it were taken to mean the cost to reproduce *and have on hand at the time of inventory valuation*, real palatable beer—not a batch of raw materials. This would entail the use of a cost or market basis as of the time the raw materials first went into process (i.e. charging raw materials into the brew at the then lower of cost or market) and would seem to me to present a sounder approach to a cost or market theory for the valuation of finished product. It would still, however, be my preference that the status of the inventory, as of

the date it is to be valued, be the governing factor in selection of the market in which it is to be valued.

Before I sit down I would like to say, further, that in many cases valuation of finished inventory at the lower of cost or market on the bases to which I have taken exception, appears to have obtained acceptance, not because it represented the sound application of a principle, but because it offered an earlier rather than a later chance to take a deduction for income tax purposes. The doubtful wisdom of following any such course must now be evident.

JOHN C. SKAGGS (Office Manager, Ralston Purina Co., Kansas City, Mo.): In order to get back to Mr. Pressprich's question, I would like to ask him a question or two. First, is the cost of raw material a major portion of the cost of your product, and second, is it subjected to a rapid fluctuation in price? I think that makes a big difference in the discussion.

MR. PRESSPRICH: The two questions are right in line. First, the copper content of the commodity is over 50 per cent of the finished product, and as you may know, the price of copper has been as low as five cents and as high as twenty-five cents a pound. Today it is eleven and a half cents and it may go down to ten in the next few months.

MR. SKAGGS: On this basis, it is my opinion that his inventory of finished products should be based on his current cost of raw materials plus the cost of manufacture; in other words, the cost to manufacture, if he bought his materials at the time he took his inventory.

CHAIRMAN McCULLY: Is that clear? I should think there might be some discussion on that point.

MR. SKAGGS: I will say also, Mr. Chairman, it makes a difference whether your inventory is a large inventory in proportion to the amount of goods you manufacture, and whether you hold it a long time, or whether it is a small inventory in proportion to the amount of goods you manufacture, and you have it on hand a very short time.

HOMER W. STANHOPE (*Cost Accountant, Anheuser-Busch, Inc., St. Louis, Mo.*): I can probably answer Mr. Blackie's question as to how we value our inventory.

Both the in-process and finished products inventories in the beer departments are carried at a standard cost. Inventories are carried at standard principally to facilitate accounting, since we have found that using a standard cost enables us to price inventories, transfers and cost of sales as correctly as if we were to make numerous calculations using current costs. One thing, of course, that enables us to do this is the fact that our inventories are large, and therefore a nominal adjustment has no effect on our total inventories.

At the end of the year these inventories are priced at the standards determined for use in the next accounting period, and therefore are corrected to the current costs, including the cost or market price for raw materials.

In answer to the question of Mr. Pressprich in connection with the pricing of inventories, we have a department in which we have a problem similar to his, but only in a small way. We manufacture a line of ice cream cabinets, and like many other manufacturers, we sometimes have obsolete cabinets. In order to move them it is necessary to sell them at 50 to 75 per cent of the sales price at which they were originally quoted, so that at the end of the year it is necessary to carry these items in inventory at a value in relation to the expected sale price. We price these items for inventory purposes at a value in line with the sale price, but we do this only once a year. We make no attempt to do this monthly, although there may have been wide fluctuations in the price of raw materials going into the finished products. We make no attempt, even on new items in the inventory, to revalue them monthly to give effect to changes in raw material prices. In this department we use the same method as in the beer departments, in that we carry all items in inventory throughout the year at a standard cost determined at the beginning of the year, and only adjust to a new standard at the end of the year, which is also the end of the accounting period.

In the beer departments we do, to some extent, give consideration to current market prices more often than once a year. However, this doesn't occur very frequently. During this year the cost of some of the raw materials has gone up considerably, and had these increases affected our standards materially we would have

changed the standards, but as I have said before, since our inventories are large, we don't find it necessary to make changes for nominal adjustments during the year. Even though the adjustment is in the neighborhood of fifty thousand dollars, it is not necessary that we change our standards. Changes in raw material prices usually occur with new crops coming on the market. We start buying the new crops in August, so that by the end of the year we have either purchased or contracted for the majority of our next season's requirements. By December 31 we have a pretty good idea of what the cost of raw materials going into the product will be, and we therefore determine the standards to be used during the next accounting period, using cost to us or the December 31 market prices. To arrive at the cost of raw materials which we use in building up our standards, we take the quantity on hand at actual cost and that contracted for at contract price. We add to this a quantity sufficient to meet our requirements, at the current market prices. As previously stated, we then carry the in-process and finished products inventories at a standard cost so determined, until it is again necessary to change them.

To WHAT EXTENT SHOULD MARKET PRICES BE REFLECTED?

CHAIRMAN McCULLY: We seem to have two matters before us—obsolescence and market valuation.

In connection with the valuation of obsolete items within the inventory, what is the basis of valuation? Is there any standard practice? Are we ever justified in carrying at no value, items which we may later sell? Is it sound practice to only purge our inventory of obsolete material at the close of the year or at physical inventory time?

The other question which we are confusing with that of obsolescence is market values. Here are a couple of applications of the cost or market practice which may serve as the basis for a discussion of this phase of the inventory problem.

Two years ago I was talking with a manufacturer who used textiles in his products. He was bitterly condemning his auditors because he said he had a good year except for the fact that they forced him to take a market write-down on his raw materials. He was sure that he shouldn't have been forced to take the market write-

down on those particular raw materials. He had firm sales contracts at prices which were based on the level at which he bought the raw materials. He said, "I admit that we say that our inventory is valued at cost or market, whichever is lower, but what I am being forced to do is simply to take a loss in a year when I actually had a profit, due to the fact that I must mark down materials that I am going to bill next year at prices based on the actual cost of raw materials. It is just distorting the profit of two years."

Does a situation such as this make a difference in the application of the cost or market basis of inventory valuation?

At the end of last year I know of a concern that was using the cost or market basis for valuing its finished goods inventory. The total inventory of this company was several hundred thousand dollars under market, but individual items in that inventory, a few isolated items, were about ten thousand dollars above market. That particular company took an inventory write-down of \$10,000 in spite of the fact that their total inventory was possibly a quarter of a million dollars under the market.

Was that good business or was it simply a phobia? I think Mr. Blackie's opinion is that if it wasn't for taxes we wouldn't make these market write-downs anyway. I am surprised that someone does not challenge that statement.

MR. BLACKIE: That is, where we have a current realizable selling price which will yield a profit. That is my point. Where the projected profit margin is realizable, why distort it?

CHAIRMAN McCULLY: I know there are some public accountants in the room. I would like to hear from a public accountant on this matter of the cost or market basis.

CLINTON W. BENNETT (*Partner, Cooley & Marvin, Boston, Mass.*): I really think all these men heard me long enough this morning. I don't like to impose myself on the afternoon sessions also.

In the case of finished goods, my opinion is that even though they contain raw material that can be replaced at a price below the cost of the material used in the goods, there is no reason for marking them down, if those goods can be sold at prices that will show a profit above the old total cost, and I don't think that the lower of cost or market rule under the normal theory requires that this be

done. I think it is quite generally felt by public accountants that the rule of reason has to be applied in a situation like that.

On the other hand, in applying the rule we have to remember that where raw material prices drop, finished goods made from those materials will usually drop also within a reasonable time, and we have to be fairly sure that this is not going to happen to these particular goods. When the auditors write down finished goods to reflect a drop in raw material prices, even though the current selling price would stand the old raw material price, they are usually thinking of that possibility.

Does this cover the point?

CHAIRMAN McCULLY: I think that is a definite contribution.

MR. PRESSPRICH: I would like to ask Mr. Bennett whether, in a business where prices go up and down, day by day, he would advocate dropping the value of his inventory at the end of the fiscal period, if there occurred a drop in the raw material market just a day or two before the inventory was taken. I am referring to an inventory of finished goods manufactured at a higher price than the prevailing raw material market.

MR. BENNETT: I still think the rule of reason should be used in pricing inventories under the lower of cost or market rule. I tried to point out this morning, that an inventory is an unrecovered cost or a deferred charge against future operations; that in the case of a going concern, we are not primarily interested in balance sheet valuations as such.

I don't think I can answer that question specifically because there are so many factors involved. However, let me say this: If the market value of the raw material has gone down, and it looks as if it may stay down for a reasonable time so that future goods will have to be made out of this lower priced material and sold in a future competitive market, then by all means the finished goods inventory should be reduced to reflect the new raw material market value in order that the sales of the subsequent period will get a fair share. If you do otherwise, you are capitalizing known losses and charging them to sales of future periods.

CHAIRMAN McCULLY: Does that answer the point raised? Mr. Bennett made the very interesting statement this morning—he has

repeated it this afternoon—that the inventory is a deferred charge. I cannot repeat his exact words, but the idea made an impression on me—that the inventory is really a deferred charge against future operations. That idea has a real significance, I believe. There was no opportunity to challenge any of Mr. Bennett's remarks this morning, and that was one of the reasons I called on him this afternoon.

Does anybody want to challenge that statement, or any other which Mr. Bennett made in his talk this morning?

TRANSPORTATION AS AN ELEMENT OF INVENTORY VALUE

MR. SKAGGS: I think Mr. Bennett gave one of the best discussions I have heard, but there is one thing I would like to challenge. Mr. Bennett made the statement—I believe I am correct—that the cost of transporting materials in should not go into the inventory. I want to cite this position to him:

He is in a business located in Kansas City and buys materials in Kansas City, for delivery in Kansas City. He may buy the same material in San Francisco. Now would he apply that rule there? It is the same material, except that you buy from one supplier who delivers it in Kansas City. The other delivers in San Francisco, or some other distant point.

MR. BENNETT: May I say, in this connection, that I once heard Al Smith say that if he took a single statement without regard to the general surrounding contents, he could prove that the Bible justified murder. Now I did make that statement. It was made along with several other kindred statements in the closing minutes of an address which I was trying to hold down to reasonable limits, and I obviously had no time for adequate elucidation.

In the case of goods, such as wheat, coal, steel, and other bulk goods, transported for any particular distance, transportation obviously is a part of the purchase cost. I think, however, it should be handled as a separate item of purchase cost. I don't think it should be added directly to the vendor's price and become lost in it. Because the item of bulk goods transportation cost forms such an important part of the total material cost, the manufacturer should have very definite knowledge of that cost. But in the case of other than bulk goods, I believe strongly in the principle of making the

material stand as far as possible at invoice prices, thereby absorbing transportation costs as part of the overhead.

There is that very definite distinction between transportation cost in bulk goods and on general materials which I should have emphasized more this morning and which I would have done if I had had more time.

Then there is the question of transportation cost on finished goods transported, say, from the factory to an outlying warehouse. Perhaps the warehouse is half way across the continent. This is a problem frequently encountered around Boston where there are many big industries that operate warehouses in Kansas City, Chicago, St. Louis, etc. We have strong arguments with clients who believe that if they transport a shipment of goods from Boston to Kansas City, they should add the freight to the inventory value of the goods, disregarding the fact that the goods do not sell in Kansas City for any more than they sell for in Boston. Adding transportation cost in industries of this kind is a stunt that is frequently indulged in. I think this whole question of transportation charges and handling charges has often been taken too lightly and just arbitrarily treated as additional material costs, without giving the matter serious thought, and that is why I stressed the point as much as I did this morning.

THE MILLING-IN-TRANSIT PRIVILEGE

ROBERT R. RENNER (*Staff, Treasurer's Department, Spencer Kellogg & Sons, Inc., Buffalo, N. Y.*): I should like to do two things: support Mr. Bennett in his advocacy of certain basic principles he has mentioned, especially that of applying theory to a reasonable extent; and offer specific suggestions on the points brought up by Mr. Skaggs.

In the industry in which I am employed exist the same problems which Mr. Skaggs has mentioned. As crushers of flaxseed, soy beans, and other oil seeds, many of our problems are typical of the grain industry, two very important ones being those arising from transportation costs and those from by-products.

I am quite sure that in Mr. Skaggs' industry, they take advantage of the technique of "milling-in-transit" accounting; through it, they should be able with practical accuracy to assign transportation

costs to raw material and finished product distribution. To those unfamiliar with "milling in transit" I shall say briefly that it is a special method of freight rate billing practised by transportation agencies, particularly the railroads, under I.C.C. regulations, and is commonly found in the industries processing basic raw commodities such as grains, lumber and others. It is based on the theory that a milling point is but a temporary interruption in the flow of the raw product to the ultimate consumer and that the transportation cost should be passed on to the consumer as such. Simply stated, the "inbound freight" which a processor pays on raw product from origin to point of milling is considered a part of the entire freight on the basis of the distance from origin point to final destination at consumer's location; and thus the "outbound freight" a processor pays is based on a "through" rate reduced by the "inbound."

Under "milling-in-transit" accounting theory (developed to meet a specific problem in the grain industry), the total freight "inbound" plus "outbound" is chargeable to cost of distribution, the only part not so assignable being the difference due to shrinkage in processing which must be absorbed by the processor. This theory arises from the concept that a processor is entitled to recover his costs of "processing" and should not be forced to absorb transportation, logically a consumer cost, as a particular item and not one to be spread and lost in overhead.

The foregoing is obviously a crude description, but it gives the fundamentals. And I think that with respect to transportation cost in an industry such as that in which Mr. Skaggs is associated, the "milling-in-transit" accounting technique very practicably serves to solve the problem. I am wholeheartedly in accord with the thought brought out by Mr. Bennett that if freight is a sufficiently important element, then it should be treated in the accounts in such a manner as will emphasize its importance; and in cost sheets and income statements it should be shown with this objective in view. I think that it is too common a practice to "lose" the importance of freight cost by spreading it thinly through allocation over all the products to which it may be assigned, or through merging it with overhead items. After all, accounting has the job of giving management the facts in such a way as will enable management to do a good job, and it can't do this if facts are not presented in a manner to facilitate crystallization of opinion into conclusion and decision.

FREIGHT ON SHIPMENTS TO WAREHOUSES

CHAIRMAN McCULLY: I believe the suggestion has been advanced here that goods produced in one place, regardless of where they may be warehoused, have the same value for inventory purposes. Do we all agree with that?

HARRY L. BELANGER (*Assistant Treasurer, Escanaba Paper Co., Escanaba, Mich.*): I am in the paper business. On the question of transportation to warehouses, you will find that there is a differential in the price of newsprint between Chicago and Kansas City of approximately \$2 per ton, so if you produce anywhere in the neighborhood of Chicago, and ship to a warehouse in Kansas City, you would be \$2 per ton off. That should be considered in your price agreement.

MR. BENNETT: What I pointed out was that as long as the goods are sold at the same price in Boston or Kansas City, then no transportation can be added to the inventory value. On the other hand, if those goods are transported to a point where they can be sold for more money, then the additional freight can be added to the inventory price of the goods, provided it does not exceed this increase in the selling price. Consequently, you might not add all of the transportation charges to inventories. You, in pure theory, might say, "We can add only three-quarters of the freight because that brings us to the uniform level of profit which should prevail in all sections," which is perhaps cutting it a little fine, but I think there is something to be said in favor of this theory.

RICHARD S. FOSTER (*Chief Accountant, Raybestos-Manhattan, Inc., Bridgeport, Conn.*): Isn't it the intention, when establishing warehouses, to give both the customer and vendor the benefit of freight and service? My company has established warehouses around the country with this thought in mind. We prepay freight on the majority of our shipments. Many of them are small and consequently costly to handle both as to freight and shipping department expense. We establish warehouses in central points as we did here in St. Louis during the past month, figuring to save on freight and handling charges. When shipping to warehouses we frequently ship in carload lots and save considerable in the way of freight, and at the same time are able to

give quicker and better service to our distributors. The freight paid on shipments to warehouses is classed as a selling expense.

MR. BENNETT: That elucidates the point I have been making. Why should you charge the freight into the inventory of your St. Louis goods, when in reality you are trying to save money by sending out a carload of material?

CHAIRMAN McCULLY: I understand that you are saying that in this particular case the goods which you finally ship to your customers from the St. Louis warehouse would actually carry a wider margin of profit if you included freight than if you shipped direct to your customer.

MR. FOSTER: That's right.

MR. BENNETT: You are really reducing your distribution expense by prepaying a freight item. It is part of your selling expense.

MR. SKAGGS: I would like to ask Mr. Foster a question. He has a warehouse in St. Louis. If it burns down he puts in a claim against the insurance company. Is he going to value his inventory at its value in Bridgeport or is he going to add in the freight when he puts in his claim against the insurance company?

CHAIRMAN McCULLY: Would the insurance claim be put in at cost value?

MR. SKAGGS: Wouldn't transporting the goods to St. Louis be part of his cost value?

MR. PRESSPRICH: We have that particular problem in our warehouse stocks where no freight is included in the insurance base.

MR. BLACKIE: I think you could clarify that if you distinguished between freight on raw materials and on finished goods.

CHAIRMAN McCULLY: We are talking about freight on finished goods.

PRACTICAL CONSIDERATIONS IN HANDLING TRANSPORTATION COSTS

MR. PRESSPRICH: I would like to ask two questions concerning incoming freight. You can buy wool delivered F.O.B. shipping point. In many cases it is hard to determine the freight when paid by the shipper. In addition, should not freight on purchases, if it isn't used as part of the material cost, be handled separately as a direct variance on material? That is leading back to Mr. Bennett's statement.

MR. BENNETT: Again the rule of reason applies here. I would consider wool purchased in large quantities in the category of bulk goods, but if you buy wool in small quantities, you may have more trouble trying to apply freight to a pound of wool than the thing is worth. It may be good theory but it is not practical cost accounting.

The less we confuse the basic cost elements by introducing various changes, the more intelligent our cost results will be, and when we sit down with the management and say our material cost is so and so, and our burden is so and so, we want the figures to mean something. Furthermore, we don't want to spend a lot of time analyzing handling, transportation and warehousing charges to purchase invoices when these items reflected in total will mean a lot more if we don't attempt to include them as part of the purchase cost. I think the answer is this: On bulk goods, transportation in is an additional purchase cost; if you are buying in small quantities or odd lots of general types of merchandise, it is not.

ALFRED L. BERND (*Accountant, RCA Mfg. Co., Inc., Indianapolis, Ind.*): I wonder if Mr. Bennett would agree to the policy of applying a fixed percentage to material costs, the same as you do overhead on labor, in order to take care of the cost of purchasing, receiving, transportation and incoming inspection. This would mean that you would value your inventory at cost or invoice price and apply the percentage when the material goes into work in process, thus liquidating your cost of purchasing, receiving, etc. In other words, this takes all of the above mentioned items of expense out of your overhead and liquidates it on a more practicable basis.

MR. BENNETT: It seems as if that passive statement I made this morning about transportation costs was the most important thing I

said. I realize now how Woodrow Wilson must have felt about his "Too Proud to Fight" statement.

In answer to the question, may I say this. I have no quarrel with the basic accounting theory of adding transportation to material cost. I say if you split up all of your transportation, carry it out to six or eight places, and add it to the appropriate material, you will be correct from an accounting standpoint. But I see no reason for attempting to handle it on a basis such as you suggest, although, as stated previously, it would be correct from an accounting standpoint.

I think, however, you are really showing the picture of your business much more adequately if you don't attempt to do it at all. If you include miscellaneous incoming freight in overhead and add freight on bulk goods to purchase cost where freight is an important element, you will be on sound practical ground. It is the relative amount of freight involved in comparison to purchase costs that is important. The rule of reason again. Bulk freight, being rather easy to apply, is included as part of the purchase; all other freight is not.

HOWARD A. GIDDINGS (*Staff, Leach, Rindfleisch & Scott, Richmond, Va.*): I can't escape the conviction that transportation on incoming materials is an integral part of your material cost and should be included in the figures for material costs—in the cost figures, as such. As the discussion brought out, a person may buy part of his material locally, he may buy part from a point 100 miles away, or due to some circumstances he may buy some from a point 500 to 1,000 miles away. In all cases the cost of that material going into consumption is what it costs him to get it delivered on his premises at the point of using.

Therefore, I believe that whatever is incurred for transportation on incoming materials is an absolutely integral part of the cost of that material, and should be represented as such in the cost statement.

In the case of miscellaneous small items, I think it is the general practice to depart from that as a measure of convenience only. Take, for example, the case of distribution activity, department stores, etc., where it would be practically impossible to allocate all small items of transportation to departmental inventories. The principle, as it appears to me, is this: Fundamentally, all transportation and other charges incident to getting the goods delivered at the point of using are an integral part of the material cost, and wherever it is possible,

with a reasonable amount of clerical effort, to apportion it that way, it should be done. Where these charges affect such small items that it can't reasonably be done, we depart, as a measure of convenience only, still recognizing that it belongs in there.

CHAIRMAN McCULLY: Let us have a show of hands on that question. How many people in the room believe that transportation costs should be considered as a part of the cost of raw material, and therefore do it in their own business?

... Several hands raised ...

How many men don't believe that?

... Two hands raised ...

MR. SKAGGS: I would like to say that, in starting this, I was speaking of goods bought in carload shipments, never less than a carload.

MR. POWELL: I am one of those who charge transportation into the cost of inventory. But let me come to the defense of Mr. Bennett. I think he is 100 per cent correct in what he says. If it is a complicated procedure, I think it should be thrown out entirely from a cost accountant's standpoint, because you get the same result with a minimum of clerical effort, and I think that is what all cost accountants should strive for. In the business I am in we have all the problems that have been brought up here, both on finished goods and raw materials and we charge freight in every way that has been mentioned. We charge some of our freight to raw material inventory. Some raw materials are bought F.O.B. certain shipping points. If we happen to go out and buy the raw material elsewhere, we don't charge the difference in freight to the inventory because the general procedure is to buy it at a certain point. In shipping finished goods to the West Coast we would charge that freight to expense.

We also have a freight account in burden which is charged with cartage between warehouses at our location. I think it all boils down to this: You must be reasonable and use common ordinary horse sense on the problem at hand.

CHAIRMAN McCULLY: What is the next problem? That problem of freight is certainly one I had not anticipated. Apparently, it is a matter of major consideration.

APPLICATION OF STANDARD COST VARIANCES AGAINST INVENTORY

LESLIE W COX (*Cost Accountant, Caspers Tin Plate Co., Chicago, Ill.*): This is not a problem of principle, but one which always seems to be a matter for discussion between public accountants and cost accountants. In pricing finished goods at the end of the year, is it necessary to allocate your material, labor and overhead variances to the portion of the inventory remaining on hand? If so, how is it done?

WILLIAM L. HAUSMAN (*Resident Manager, Barrow, Wade, Guthrie & Co., St. Louis, Mo.*): I understood Mr. Powell to say that in his business they are able to allocate the purchase variation between the particular commodities. As those commodities are used up, the purchase variation is absorbed into cost of sales; and on commodities still on hand, the applicable purchase variation is thrown against the standard cost as a reduction.

I have in mind a concern that has purchase variation, and also labor variation, burden variation, and usage variation accounts. Let me give the broad general picture as to how they price their inventory, which may be helpful. In the first place, they use standard costs. Labor variation represents the difference between actual labor costs and standard labor costs, and enables us to determine the proportion that variation bears to total labor.

If the variation account shows a debit balance, indicating higher actual labor costs than the standard rates, further analyses are made to show causes. In one instance this condition was caused by a plant shut-down as a result of a strike. Under this condition, labor included in inventories was priced at standard. If the analyses had shown standard labor rates to have been understated, the inventory would have been raised by the proportion that the variation bore to total labor. When the variation account shows a credit balance, the inventories are correspondingly reduced by an inventory reserve in the amount of this proportion of variation to total labor.

The same plan applies to purchase variations. If purchase variation shows that the standard costs are in excess of actual costs, then we take the relationship that purchase variation bears to total purchases, and if that analysis shows an average of, say two per cent, we reduce all material costs in the inventories, by a reserve, to bring them down to cost.

Burden variation is handled in the same way: If standard burden rates are 135 per cent of base, and we find that actual burden is only 125 per cent, we reduce the inventories by a reserve to that cost. I might say here that inventories are seldom increased over standard costs. Even if these variation accounts show debit balances, some very definite reason must be shown before the inventory will be changed.

The difference between what I have in mind and what Mr. Powell had in mind, is that we ignore individual labor charges, individual material charges and individual burden charges as they apply to any one of the 10,000 articles in the inventories, and just take the broad, general picture and adjust our inventories by applying the proportionate part of those variation accounts through a reserve account.

CHAIRMAN McCULLY: You do that on your entire inventory?

MR. HAUSMAN: Purchase variation, of course, will be the only item applying to raw materials. If our total purchases are \$6,000,000, and we have a \$60,000 purchase variation credit, the total amount of our raw materials is reduced by approximately one per cent for balance sheet purposes.

If our labor analysis has shown that standard costs are two per cent over actual labor costs, then the inventory figures, which are broken down as between labor, material and burden, are all reduced, through a reserve, by that two per cent as it applies to all labor in the inventories. In that way we get back, not to actual labor cost on any one article, but to the broad general labor cost as it applies to all production for the year.

Handling burden the same way, we get what I think are standards reduced to costs, taking the year as a basis for reducing.

CARL E. LINDQUIST (*Western Electric Co., Inc., New York, N. Y.*): I should like to raise one point. Do you separate the costs of fabricated articles between labor, loading and material for the purposes of applying variation surplus to determine net inventory value? If we assume that you have a labor surplus, an expense deficit and a material purchase price surplus, would you combine the three and obtain one percentage to apply to the total cost of the 10,000 articles? Or do you separate the cost of each article into its three elements?

MR. HAUSMAN: Regardless of whether the work is in process, a fabricated part or finished material, the company still has the breakdown as between labor, materials and overhead. It has taken thousands of standard cost sheets to do this, which is one reason the company does not readjust their standard costs more than once in two years. Having the breakdown to those particular elements, the company can apply the adjustments having to do with labor, overhead and purchase variation, whether plus or minus, to every item in the inventory.

A usage variation arises when the company adopts other materials as a substitute for specified materials in order to use up something which would otherwise tend to become obsolete. In most instances standard costs are less than the cost of the substituted materials, so standard costs are used and the usage variation account is taken direct to cost of sales, in order not to inflate values because of the substitution made upon the recommendation of the engineering department. Getting back to the question, the company does not take the total variations as one composite amount, but does segregate the adjustments as to labor variation, burden variation and purchase variation.

MR. LINDQUIST: Is it the general practice of most companies operating under a standard cost system to break down their inventories in that way?

MR. POWELL: I would like to come to the defense of Mr. Hausman. Whether he breaks it down or not, you can get the same results as this gentleman pointed out by applying a percentage to your total cost and figuring your labor variations as a percentage of your total cost, or add all your variations together and charge them into inventory on your statement. I would like to disagree with Mr. Hausman on one point. I don't agree that burden variances should be charged to the inventory.

MR. HAUSMAN: I don't like the word "charged." Let's ask whether your burden variation should be credited to inventory or not. Suppose, as the situation actually exists, the engineers estimate a rate equal to 135 per cent of base, but you find that because of economies your actual burden amounts to only 125 per cent of base. Now, certainly, I don't believe there is any justification for leaving

that burden variation in your inventory, thereby inflating it to the difference between 125 and 135 per cent on direct labor.

MR. POWELL: I think that comes under accounting policy. We have a mill in our organization that would run 90 per cent of capacity one year and 35 per cent the next. It might run the whole year at 35 per cent. This mill manufactures American reproductions of oriental rugs. When business in general is bad, our rug business goes right straight to the bottom. When business is good, it goes up again. We carry all of our burden at normal. If we carry it at actual at a bad time, when activities are at the 35 per cent level, we would inflate our inventory because the burden rate is much higher than it should be during that period.

MR. HAUSMAN: We are not going to argue about that; I agree with you there. I am getting at the condition where we have inflation due to failure to take into account a burden variation that shows a credit balance.

If we have a situation where, because of some peculiar condition, our burden has gone up materially and we have a debit balance in our variation account, we are not going to value those materials at a burden rate that is far beyond the rate the engineer showed the standard to be, unless facts show the engineers to have been wrong in their calculations. But when we have the reverse condition and our standard costs are over our actual costs, we, as the accountants of the firm, are certainly not going to permit them to carry an inventory that is so inflated.

CHAIRMAN McCULLY: How do you show these items on the profit and loss statement? Simply as percentages applied to the cost of goods sold?

MR. HAUSMAN: All profit and loss statements are made on the basis of standard cost down to gross profit at standard, and then come the unabsorbed variation accounts as the next deduction, or addition. Putting it concretely, if there was a \$100,000 credit in a variance account, of which we attribute \$10,000 to the inventory still on hand, the \$90,000 would be shown as a separate item in the profit and loss account immediately below "gross profit at standard."

CHAIRMAN McCULLY: Does that particular company have any separation of profit and loss by groups of products, or anything of that sort?

MR. HAUSMAN: None. Eight or ten million sales a month, and sales are sales, and cats are cats.

MR. POWELL: We do. We have practically the same system as Mr. Hausman. However, we have a division by sections. We have a section for blankets, a section for sheets, bed spreads, towels, rugs and various textiles. We carry out profit and loss according to those sections.

MR. HAUSMAN: I would like to ask how you apply the variance directly to the various products that you manufacture. Do you determine profit and loss by groups?

MR. POWELL: We apply the variations. Our profit and loss statement is carried by sections, by type of product entirely, and we make one grand summary. The variations are applied to those sections on the profit and loss, so that we know the profit and loss by type of product.

Does this answer your question?

TREATMENT OF INVENTORY RESERVES IN SUBSEQUENT PERIODS

MR. GIDDINGS: As I understand it, the idea was to add in a credit due to efficient operation, that would reduce the inventory cost in the aggregate by that amount, although the standard cost on the 10,000 different items would not be changed. Am I right?

MR. HAUSMAN: That's perfectly right.

MR. GIDDINGS: I would like to find out how it would affect the costing of those items when sold in the subsequent fiscal year. Certain items from various product groups would be sold and go into cost of sales in the subsequent period. How would you deal with that? You have on your balance sheet a reserve deducted from the inventory at standard. When various articles out of this and the other product group are sold, how do you get the proper costing?

MR. HAUSMAN: Once again I say everything is carried at standard cost, sales are priced out on the basis of standard costs, and as you adjust your burden variation accounts, you get your proper costs into your proper year—not exact costs as to each article sold, but total standard costs adjusted by the variations as they apply to the total inventory.

This means that you do not have segregations as to particular types of product, or as to individual items in the various types.

MR. GIDDINGS: What I meant was this: Assume that on a calendar year basis you found that you had \$100,000 credit, based on more efficient operation than your standard, and you reduced your aggregate inventory \$100,000. In 1940, the following year, you sell some of those products. You have already reduced your inventory in the aggregate, by \$100,000. Unless I missed a point in there, the aggregate of the individual items are at a higher figure than what your balance sheet would indicate. If an individual item was costed at \$10 standard cost, and that \$100,000 write-down represented, in the aggregate, 10 per cent, that item would represent really \$9 instead of \$10. Now, when you sell that item in 1940, do you cost it at \$9 or \$10?

MR. HAUSMAN: At \$10, because it is always carried in the inventory at \$10. Then, as the company refigures their variations, carrying forward from the prior year a continuation of that percentage differential, cost of sales will automatically adjust itself. The offset to the dollar in standard cost would come out of that variance account and go into profit. The last year value was \$9 and the charge to cost of sales is reduced to \$9.

MR. GIDDINGS: You reduced it to \$9? -

MR. HAUSMAN: That's right.

MR. GIDDINGS: Then, in 1940, you take a dollar more into your cost of sales than your books would show in the aggregate. How do you adjust that?

MR. HAUSMAN: By showing it on this third section of the profit and loss statement. First we have sales; then cost of sales at standard, which throws it into profit and loss at \$10; and then a variance

adjustment, which brings the costs down to what they should be in 1940, on an over-all basis.

MR. GIDDINGS: In other words, you have the items arranged so that, for those which result in sales, you can accumulate the variances in some account that could be incorporated in the profit and loss statement in 1940. Is that it?

MR. HAUSMAN: It works out, but not exactly according to the picture you have given us. The individual \$9 item might not be reflected at that exact figure in the profit and loss account for the first month of 1940, but as the year goes along, the difference will be carried through the profit and loss account.

MR. GIDDINGS: In 1940 you would be producing more goods, and I was wondering how you would be able to identify those goods which had been written down to \$9 and those which were produced in 1940 at your standard cost of \$10.

MR. HAUSMAN: About the only thing I can say, because of the time restriction, is this: I was trying to outline here a plan which would tend to take standard costs down to actual costs, not as to any individual item in the inventory, but as to the inventory, as an entity. The above was the solution reached by this client, and it seems to work out very well. The net result, in the final analysis, seems to be that it will work out through the handling of these variation accounts by applying to the inventory a proportion of the variation account, and leaving in the cost of sales the balance of that variation account.

CHARLES W. TUCKER (*Controller, H. P. Hood & Sons, Inc., Boston, Mass.*): If I understood the remarks of the previous speaker, the primary purpose of the profit and loss statement procedures of that concern has been to determine an over-all annual profit without respect to an accurate, individual monthly statement, or without respect to the contribution which each product or territory makes to the profit-making objectives of the company. It seems to me that brings us to rather an important point, possibly to a point which might very well be used as a criticism of accounting as it is practiced in a good many concerns.

After all, the primary object of being in business, aside from the importance of rendering a service, is to produce a reasonable return on the investment, and with that as a basis for our thinking, it seems to me it is very important, indeed, that we know as accurately as possible, just what contribution each individual operating unit, or class of merchandise, makes to the realization of that objective. Expediency has its place, but I am afraid that sometimes we are a little too slavish to expediency.

MR. HAUSMAN: If I may have a moment, let me say this. I haven't touched at all upon the internal control which does, of course, have a lot to do with the various lines and the profit or loss that comes from those lines. I am speaking now only of practical ideas that are applied in the formulating of the inventory valuations. The company does have internal information, of course, that shows whether or not one line is hitting a low spot or producing profits. That is more of an internal proposition and has nothing to do with the particular balance sheet valuations of which we are speaking.

CHAIRMAN McCULLY: Gentlemen, it is beyond closing time. You men who, in the early stages of this discussion, shook your heads and made up your minds that some time later you were going to ask a question and disagree with a point, have lost the opportunity to do so on this particular subject at this particular N. A. C. A. Convention.

The meeting stands adjourned.

. . . The meeting adjourned at 5:10 o'clock . . .

GOVERNMENT AND WAR ORDERS

Chairman: F. EARL REUWER

Secretary and Treasurer, American Bosch Corp.,
Springfield, Mass.

CHAIRMAN REUWER: As you know, our subject is "Accounting for Government and War Orders." The subject naturally tends to drift toward a consideration of the main topic of profit limitation, so I believe we can dismiss without mention the various restrictive clauses that apply to government contracts, such as the Walsh-Healey Act, the Wage and Hour Law, and so forth, and delve right into the subject of profit limitation, otherwise known as the Vinson-Trammel Act.

Because of the many angles of this subject, we have budgeted our time on profit limitation into subdivisions as follows: the contracts subject thereto; problems in connection with setting a bidding price or a quotation price; the reporting procedure, and the time thereof; stated regulatory cost definitions; net loss carry-overs and deficiency in profit carry-over; the question of income tax credits; the question of loans for plant and facility expansion; and finally, the question of closing procedure with the Internal Revenue Department.

The meeting is now open for discussion on questions or comments of what contracts are subject to the Vinson-Trammel Act. Does anyone have a question on that subject?

GENERAL PROVISIONS OF THE VINSON-TRAMMEL ACT

EDWARD P. GILLANE (*Works Accountant, Underwood Elliott Fisher Co., Bridgeport, Conn.*): In order to start the discussion, I would like to have some member define for those of us who are not doing government work the nature of the contracts, the amount of money involved in such contracts before we would actually be subject to the regulations under these acts, and what labor legislation we would have to be governed by.

CHAIRMAN REUWER: Will someone volunteer to answer that question?

EUGENE R. NEVINS (*Works Accountant, Manning, Maxwell & Moore, Inc., Bridgeport, Conn.*): In my opinion, as far as the

Vinson-Trammel Act is concerned, the Act provides that all contracts for the construction of large vessels valued at over \$10,000, and sub-contracts resulting from the construction of large vessels valued at \$10,000 and over for the Navy Department are subject to the Vinson Act, which limits profits to 10 per cent. In addition, contracts for the manufacture of airplanes valued at \$10,000 for the Navy are subject to the same 10 per cent profit limitation. Profit in construction of aircraft for the Army is limited to 12 per cent and, in addition, contracts with the Maritime Commission for vessels in excess of \$10,000 are also subject to a limitation of 10 per cent. Of course, the Act applies only to the original vessel and necessary equipment therefor; it does not cover the replacement of any equipment on that vessel.

For example, if the complement of the vessel calls for a certain number of torpedoes, such torpedoes as are originally furnished with the vessel are subject to the Act, but replacements of those torpedoes are not subject to the Act at the present time.

There are other acts affecting all interstate commerce, such as the Wage and Hour Act. Of course, contracts with the government are not considered interstate commerce. There is also the so-called Walsh-Healey Act, which provides that on all government contracts to the extent of \$10,000 and over, overtime must be paid after eight hours in one day, or after forty hours in one week, but here the Act is not passed on to subcontractors. The subcontractors are not subject to the Walsh-Healey Act, even though the amount of money involved in the subcontract may be in excess of \$10,000.

This is rather complicated and I may have missed a point or two, but there are some very clear regulations which may be obtained from the Department involved or the Government Printing Office.

CHAIRMAN REUWER: I observed, I believe, one correction that might be made to your statement. I think you made the statement that Army contracts are subject to a profit limitation of 12 per cent. The 12 per cent limitation applies to both Army and Navy aircraft contracts of \$10,000 and over.

WHEN ARE SUPPLIERS OF PARTS AND EQUIPMENT SUBJECT TO ACT?

MARVIN F. PIXTON (*Resident Manager, Peat, Marwick, Mitchell & Co., Atlanta, Ga.*): I have had no definite dealings with the Army and Navy Departments, but I have with the Maritime Commission

on their contracts, and the chief of the audit section has ruled that in the matter of subcontractors only those who furnish material that actually goes into the physical construction of the ship are classed as subcontractors in respect to the limited profit.

We had this question come up with the Maritime Commission: The sales of oxygen and acetylene for welding involve a large amount of money, but the concerns furnishing those materials were not held to be subcontractors, even though the amount purchased during the contract period was well over the \$10,000 mark.

Somebody made a remark this morning, as I recall it, that welding rods were considered part of the material that goes into the ship. I am not sure that the Maritime Commission looks at it just that way, because their accounting provides that it is an overhead expense even though some of the welding rod does fuse and become part of the ship itself.

There are other materials that run into large amounts that don't go into the ship itself, but are used incident to the construction.

CLARENCE E. STENDER (*Office Manager, Pressed Steel Tank Co., Milwaukee, Wis.*): In connection with the welding rods just mentioned, it was held among the first rulings, as I recall, that welding rods were considered a part of the vessel, and in contracts given in excess of \$10,000, were supposed to be subject to the Vinson Act.

With reference to all equipment, there seems to be some question as to whether equipment for a vessel is subject to the Act. No definite ruling has been handed down that I know of, and I have followed it rather closely.

CHAIRMAN REUWER: What sort of equipment do you mean?

MR. STENDER: Torpedoes and other such items that actually go to make up a ship. We may have such items as clothing for sailors, and those items, we understand, are not subject to the Act.

CHAIRMAN REUWER: I think the underlying idea here is that on items of expansive installation or additional construction for the Navy, and for Army and Navy aircraft, the Act applies. It is a question of definition as to what items are additional or expansive facilities for the Army and Navy.

R. F. BEAVEN (*Factory Accountant, The Mengel Co., Louisville, Ky.*): I would like to go a little further and ask whether crates would be covered in the statement of airplanes and airplane parts. Would that be part of the contract?

CHAIRMAN REUWER: I think the regulations state that shipping supplies and packing supplies are a part of the cost.

CLARENCE J. MORRIN (*Vice-President & Controller, Boston Gear Works, Inc., North Quincy, Mass.*): I have a question in mind on equipment. Take an anti-aircraft gun. I assume that if it were not intended for use by the Navy it would be exempt, but an anti-aircraft gun mounted on a boat would not be exempt.

CHAIRMAN REUWER: They have ordinarily ruled in the past that munitions, classified as such, are not subject to the Vinson-Trammel Act.

MR. MORRIN: Not even when part of the equipment of the boat?

CHAIRMAN REUWER: Not even then. I think we are all clear upon the subject of what contracts are subject to the Act.

MATERIAL WITHDRAWN FROM STORES

JUNIUS H. COOPER (*Division Accountant, Hamilton Standard Propellers, East Hartford, Conn.*): I understood Mr. Russell to say this morning that in one case the Navy engineers would help a subcontractor determine the material he had furnished to go into the contract. From that, I infer that this particular subcontractor did not get a clean-cut subcontract or there was not a single sale of material for a particular prime contract, because if that had occurred, there would be no question about what he had furnished that went into the contract.

Suppose you have a contractor who is buying from one of his vendors an item of material which he is using on Army and Navy contracts and also on commercial contracts. He normally buys it, not for particular contracts, but for stock. At some later date he uses \$10,000 worth on an Army or Navy contract. I would like to hear an expression of opinion as to whether or not a purchase of that

kind constitutes a subcontract subject to the Vinson-Trammel Act, or whether it constitutes furnishing material for stock, which would not be subject to the Act.

CHAIRMAN REUWER: Would someone like to answer the question of whether items purchased for stock and later partly used on government contracts are subject to the Vinson-Trammel Act?

WILLIAM TRAUT, JR. (*Auditor, Harrisburg Steel Corp., Harrisburg, Pa.*): Isn't it true that if a subcontractor's orders for a single Vinson contract, when added together, exceed \$10,000, the subcontractor is liable?

MR. COOPER: Whether two or three purchasers constitute one subcontractor is another question, and also a very good one. It is not the question I raised, which is simply this: If a manufacturer buys \$25,000 worth of material from a vendor today, and next month gets the contract from the Navy which is a Vinson contract and requires material of the kind he has just bought, and he elects to use \$15,000 worth of it, would that portion of his original purchase order be construed as a subcontract under the Vinson Act, or merely that the manufacturer was using some material from stock?

CHAIRMAN REUWER: I will hazard the opinion that it would not be regarded as a contract subject to the Vinson-Trammel Act, because the regulations seem to provide that withdrawals from stores, even though not an article of the class you mentioned, are not subject to the Act, but constitute normal withdrawals of stock items.

MR. COOPER: Would Mr. Russell be good enough to explain why the Navy engineers had to get into this question of determining what a subcontractor could furnish?

DONALD M. RUSSELL (*Resident Partner, Lybrand, Ross Bros. & Montgomery, Detroit, Mich.*): I do not think you can give a positive, general statement that will apply to all cases.

The last remark that the material was in stock prior to the time the prime contractor received the Navy contract introduced a limiting feature that might be quite a point in the case.

The case I mentioned this morning was one involving electric cable

which was bought in considerable quantity, and the subcontractor was concerned about the matter and asked for a ruling. The ruling was that the order was a prime contract under the law, and that the subcontractor should endeavor to trace it and find out whether 90 per cent of it was used, 60 per cent, or what. Some of the electric cable was installed on exempt equipment and some was part of the vessel, and the Bureau of Engineering established a percentage of the total requirements for the vessel that would be subject to the contract.

CHARLES H. TURNER (*Assistant Treasurer, Woodward Governor Co., Rockford, Ill.*): We are subcontractors furnishing equipment for naval vessels and aircraft, and especially on naval vessels we may receive as many as fifty orders applying against one contract. No one amounts to \$10,000 or more, but in total they do. We asked for an opinion from the Treasury Department on whether such orders were subject to the Act and they said that, at least in our case, they believed they were. However, they said final determination would have to be made after completion of the contract, and would depend on all the facts. That was not a satisfactory answer to us, but that is what we got from them. I am bringing up this point to emphasize that one of the basic necessities in preparing quotations for material to be used on naval vessels, especially under subcontracts, is to determine whether the order, if received, will be subject to the Act; and, if not subject, whether orders released later by the prime contractor will bring the total for the contract above the \$10,000 limitation and thereby retroactively subject to the Act the order now being quoted on.

ALLOWANCE FOR PROFITS AND TAXES IN BIDDING

CHAIRMAN REUWER: That is one of the difficulties with this subject. It is always hindsight rather than foresight.

What would be a theoretical way to go about the establishment of a bid price upon a contract subject to profit limitations? Some representative from one of the aircraft companies might answer that question, having in mind the fact that there is a credit for income tax which is deductible from the amount of excess profits to be returned to the government above 10 or 12 per cent. Could you help us on that, Mr. Russell?

MR. RUSSELL: I take it you mean with particular reference to the tax feature?

CHAIRMAN REUWER: Yes.

MR. RUSSELL: I understand that you suggest that you might build up the selling price to cover the income tax, so that, in effect, we finally get our profit without an income tax on it?

CHAIRMAN REUWER: Right.

MR. RUSSELL: It seems to me the limitation in doing as you suggest is that, in the first place, you are subject to competition and may lose the order. In the second place, if it is given without bidding, it must be reasonable in view of the market price of similar work. Of course, T.D. 4906 specifically mentions income taxes as an unallowable element of cost.

MR. STENDER: We endeavored to do that on several contracts and they were thrown out. They said 10 per cent was the maximum profit, and from that 10 per cent the taxes would be deducted.

MR. RUSSELL: Doesn't the usual bidding form call for the detailed amount of taxes that have been included in the estimated selling price? If the amount of such taxes included the income tax itself, it would certainly be taken out and deducted from the allowed selling price.

CHAIRMAN REUWER: I have in mind the building up of a selling price on the contract from the determination of cost of manufacture, cost of selling, if any, and cost of administration. Does the allowed credit for income tax constitute an additional item to be included in arriving at a determined selling price? Suppose we had a normal income tax of 19 per cent, and a profit limitation of 12 per cent of selling price, would that mean you could add to a theoretical profit 19 per cent of 12 per cent to make the maximum determined profit on the order 14.28 per cent?

MR. RUSSELL: It is my understanding of the law that they expect the 12 per cent to be subject to income tax.

CHAIRMAN REUWER: You are allowed 12 per cent of selling price as your profit without paying anything back to the government, but

the law and the regulations further provide that you can take as a credit against any determined excess profits, the amount of income tax paid or to be paid with respect to such excess.

MR. TURNER: You are allowed that credit on the amount you have to return to the government in excess of the 12 per cent. You figure up how much income tax you paid on the profit in excess of 12 per cent which is being refunded and you are allowed to deduct that amount of tax from the refund, but you are supposed to pay tax on the profits under 12 per cent, and therefore retained.

JOSEPH P. HEALEY (*Assistant Secretary, Curtiss Wright Corp., Buffalo, N. Y.*): In the pamphlet prepared by Mr. Russell, which was distributed this morning, under Exhibit A-1, dealing with element of cost not allowed under Vinson Act contracts, Federal and state income and excess profits taxes, and surtaxes are shown as item 13.

I believe the confusion which seems to be holding up our meeting at the moment has not been a problem to date with the aircraft manufacturers. We haven't exceeded the 12 per cent profit yet, so we don't pay anything back.

As Mr. Russell said, competition enters into the setting of prices, to the point where it is too often a matter of not how much profit you are going to make, but how much loss you must sustain in order to keep in business.

CHAIRMAN REUWER: You fellows have a way of getting that result. We would like to bring that out here today.

MR. RUSSELL: I think the question was asked whether you are allowed credit for tax on the *entire* amount of your profit.

CHAIRMAN REUWER: Yes.

MR. RUSSELL: Reading from T.D. 4906, it says: "The Secretary of the Treasury shall allow credit for any Federal income taxes paid or remaining to be paid upon the amount of such *excess* profit."

CHAIRMAN REUWER: A very good answer to our question. Are there any questions on reporting procedure to be followed in connection with government contracts? If not, we will pass on to the main feature of this discussion, the question of cost definition.

CONSOLIDATED REPORTS

MR. HEALEY: Mr. Chairman, one thought has come to me on the reporting feature, particularly in our case where there are subsidiaries. The question arises as to whether or not each of the subsidiaries reports. I believe a consolidated report will be in order, particularly when the government places an order with a member subsidiary who, in turn, purchases from another member subsidiary. Being in the aircraft part of our corporation we might buy propellers from the propeller division, if specified by the government—not at our choice. Then, of course, it might be necessary to prepare a consolidated report.

CHAIRMAN REUWER: Would that be true if they were separately incorporated subsidiaries?

MR. HEALEY: No, it would not.

CHAIRMAN REUWER: As I understand it, for separately incorporated subsidiaries you cannot file consolidated returns under the Vinson-Trammel Act, but in the case of unincorporated intercompany contracts of subsidiaries you would be allowed to file consolidated returns.

On the question of cost definition, you all received this morning the pamphlet prepared by Mr. Russell which set forth the items of allowed cost, together with a list of the elements of cost not allowed under Vinson Act contracts. Taking those up in the order in which they appear—factory cost, direct materials, direct productive labor, direct engineering labor, miscellaneous direct factory charges, and so on—what are your questions concerning those items of cost?

ENGINEERING AND DEVELOPMENT EXPENSE

MR. MORRIN: Will the government require that a manufacturer, in determining costs for purposes of the Vinson Act, be consistent with his regular practices in determining costs on other contracts? I have in mind engineering expense. Suppose a manufacturer throws all his engineering into overhead and it is distributed on some basis to all jobs. Can he, under the Vinson Act, charge that directly to the job, or must he stick to his old method of distributing it as a general overhead item?

CHAIRMAN REUWER: Would someone like to answer that question?

ARNO R. KASSANDER (*Staff, Lybrand, Ross Bros. & Montgomery, New York, N. Y.*): As I recall the regulations, they specifically provide for that point. In general, the regulations state that engineering charges should be applied directly, but they also state that where the engineering charges are not of sufficient consequence to try to segregate them as direct charges against specific products or contracts, they may be combined with indirect factory expenses. I think that is exactly in conformity with the regulations. If someone remembers them more clearly than I do offhand, I would be glad to be corrected.

CHAIRMAN REUWER: I believe you are substantially correct on that. Of course, throughout the regulations there is very definitely a separation of direct costs and indirect costs. In the case of engineering expenses, the regulations state rules concerning direct engineering expenses, and likewise covers the subject of indirect engineering expenses.

Are there any questions on engineering and development costs in connection with this cost definition?

MR. NEVINS: How would you go about deciding the value of a decision by a high-priced engineer? Of course, we can understand how the cost of the drafting work can be readily accumulated. The draftsman will spend a certain number of weeks on a job. Suppose the question comes up and eventually reaches the desk of a top engineer. Possibly in a few minutes he can give an opinion, but back of those few minutes there are years of experience which enables him to give a snap judgment. What would you do in a case like that? Would you just say the engineer took fifty minutes and prorate that part of his salary, or would you forget it and carry it as part of your indirect charge?

CHAIRMAN REUWER: I believe you would take it as part of your indirect engineering expenses which the regulations say should be prorated on Vinson Act contracts on the basis of direct engineering labor, on the assumption, I suppose, that you do accumulate the direct engineering labor by specific projects and are in a position to prorate the supervisory engineering expenses—mostly salaries and wages—on the basis of direct engineering expenses.

A question I would like to pose before you on engineering expenses is this: Suppose a company for the past five years or so has been expending considerable sums upon research, development and engineering expenses for a product, and only recently receives a contract for that product subject to the Vinson-Trammel Act. Would it be possible, under the regulations, to spread the cost of past engineering expenses of that nature to a current contract subject to the Act?

I believe it is the practice of the aircraft companies to absorb into the cost of current contracts research and development expenses of products for which contracts may be received in future years, and that the government allows such inclusion of development expenses. Is that true?

INCLUSION OF PAST DEVELOPMENT COSTS IN VINSON CONTRACTS

MR. KASSANDER: May I comment on that, again on the basis of one case that I have in mind?

The practice of this company is to write off its current development expenses. As a statistical matter, outside of the accounts, they keep a record of the cost of each development project, even though it has been written off. Then when they get a government contract, they charge an applicable proportion of that previously written off expense to the government contract, and it is allowed, with this restriction: The amount of currently written-off development expense is recorded in one of the general overhead accounts and in one of the administrative accounts, and the recovery through direct charges is credited to the account being currently written off, so that they reduce the proratable amount of current expense, but they do get the benefit of a direct charge-off of those previous development costs even though they had already been written off.

CHAIRMAN REUWER: In other words, you cannot charge past development costs to government contracts and at the same time charge current development costs on a prorated basis.

MR. KASSANDER: That is the idea. You have to offset them.

GEORGE M. EBERT (*Assistant Treasurer, Curtiss Wright Corp., St. Louis, Mo.*): I hesitate to get into this discussion because we have been doing a lot of development work, but I believe you will find that

if the development cost is charged off and already taken up through profit and loss, and goes into your income tax return, it will not be allowed under the Vinson Act. I am not too sure about it, but I believe I am right.

CHAIRMAN REUWER: That immediately raises a question as to whether previously deducted charges on income tax returns of previous years can be used as cost deductions in the current return under the Vinson Act. Is that right?

MR. EBERT: Yes.

CHAIRMAN REUWER: How binding are the relations between the income tax regulations and the Vinson Act regulations? Has anyone had any experience along that line in connection with Vinson-Trammel Act contracts?

I might mention that I have a theory of my own on the subject that in the beginning separates direct costs of development determined for specific products from general expenses of a general nature currently incurred. It might be possible, under a liberal interpretation, to charge to government contracts the past development costs of *specific* items and, in addition, charge a portion, on a prorated basis, of the current *general* engineering and development expenses—which might be an exception to the remark just made.

MR. PIXTON: The Maritime Commission's regulations indicate that the cost of current engineering and development in respect of other contracts is not allowed. You can't go back and dig up some such expenses and pitch them in, any more than you could expect to charge today for your education of twenty-five years ago.

CHAIRMAN REUWER: That might be true of the Maritime regulations, but how about the Army and Navy regulations?

MR. PIXTON: I don't know how closely they are related.

MR. RUSSELL: The two sets of regulations are completely independent. The Maritime Commission makes its own, and the Treasury Department provides the regulations for the Army and Navy. I

think there is a specific instance under the Vinson Act where they have allowed past development expenditures to be picked up and charged to the contract.

CHAIRMAN REUWER: Would those past development expenses have to be calculated for the specific article, the subject of the contract?

MR. RUSSELL: In this case, as I understand it, they were. I think it would be a rather difficult point to prove, and the contractor would have to have excellent records to show that the past expenditure was definitely of benefit to the current contract.

CHAIRMAN REUWER: In other words, your company would have to be in a position to show a separate cost accumulation by projects for the individual article, the subject of the contract.

MR. HEALEY: May I ask Mr. Russell whether, in the particular case, the development projects had been written off to profit and loss or carried over as a deferred charge?

MR. RUSSELL: It is my understanding they had been written off on their income tax returns.

CHAIRMAN REUWER: That is where I get my theory on the idea I spoke to you about a moment ago.

STANDARD COSTS UNDER THE VINSON ACT

CHAIRMAN REUWER: Are there any questions concerning material cost of government contracts under the various methods of cost procedure, special order costs or standard costs?

MR. STENDER: Standard costs, as the word standard implies, are out of place entirely as far as the Vinson Act is concerned. We have discussed standard costs for years, and the government comes in now and upsets the apple cart in so far as standard costs are concerned. They are not interested in standard costs. They are not interested in volume. We may go along for ten years at a given volume and establish what you might say is normal. The next year we have Vin-

son contracts. These Vinson contracts may amount to 10 per cent of a 50 per cent increase. The government then comes along and says that standard costs have no place in the Vinson Act.

CHAIRMAN REUWER: In other words, if you use a standard cost system for material or labor or overhead, you would be under the obligation of adjusting that to actual material, labor and overhead costs?

MR. STENDER: That is right.

CHAIRMAN REUWER: Does that mean actual expenses during the period you worked upon the contract?

MR. STENDER: If I remember correctly, up to this time each year's contracts have been completed during a single year. I believe Mr. Russell commented on that this morning.

MR. RUSSELL: I made the statement that if standard costs are continued on Vinson Act contracts, the contractor must be prepared to analyze his over- or under-absorbed burden, allocating them to contracts to convert them to an actual cost basis.

CHAIRMAN REUWER: On that basis, would that mean that the contractor would have to change his cost methods in order to obtain actual job costs on the articles subject to the government contracts?

MR. STENDER: Standard costs are more or less established on the basis of the law of averages. We may put a job through on the basis of the law of averages. Under the Vinson Act, if we do not get an actual cost or keep actual records, they will then take the law of averages. You may have certain excesses which are rightfully charged to the Vinson Act, but unless you kept those records specifically you would be unable to include them as part of your direct labor cost. Therefore, standard costs under the Vinson Act are out entirely.

CHAIRMAN REUWER: That means that you should, in order to handle the matter in the simplest way, establish a specific order cost accounting method.

MR. KASSANDER: Perhaps we are just talking about the same thing and expressing it differently, but again I had occasion to work on several situations where this very question was involved. The latest regulations specifically refer to standard costs and say that if that has been the manufacturer's custom he may continue to use standard costs, but they must be adjusted to the facts. In other words, variances must be applied to these standards. Previous to these latest regulations, there was no mention whatever made of standard costs.

I recall a case where the company was accused of violating the law because they did not keep records of actual contract costs. We finally managed to get the idea across that we could adjust the standard costs by variances, and that philosophy was then accepted with the understanding that there would be a reasonable analysis of variances, and not just a blanket spread of all variances over all costs. In other words, there would have to be some departmentalization and specifically a segregation of variances between material, labor and overhead, so that those elements could be separately applied. In that one case the adjustments were accepted finally.

In another case the company was operating definitely on a job cost basis. With the increase in volume the job cost was beginning to be entirely impracticable, and they wanted to go on standard costs. Before going on standard costs, we asked a government auditor to come in and discuss the problem with us. We showed him what we wanted to do, showed him the proposed chart of accounts, and told him how we intended to classify variances. We secured a definite opinion that the change in accounting method from job order cost to standard cost would be recognized and accepted if we properly analyzed our variances and applied them on principles which were applicable to the circumstances.

PERIOD FOR ADJUSTING ABSORBED COSTS TO ACTUAL

CHAIRMAN REUWER: Assuming that you are determined to operate on a so-called actual job cost method, there still remains the question of the applied overhead rate in the determination of costs by the job cost method. Should we use the budgeted rate of overhead absorption in determining costs by the job cost method, or do we have to adjust those budgeted overhead rates at the end of an accounting period of one year or at the end of an accounting period representing the time we worked upon the contract? Will someone volunteer the answer to that?

MR. COOPER: I would say that unless you use a complete accounting cycle you would get a rather distorted result, because frequently you have adjustments at the end of the year that really apply all the way back through the year. If you happen to take a contract which lasts over February and March, you have not included in your costs any inventory adjustments or other adjustments that are customarily made at the year end.

Also, your expenses do not always fall uniformly during the year, month by month. You may have an extraordinary item of expense that would fall in the month just before or the month after, or it may fall in the month in which you draw up the contract. So I should think you would have to take a complete accounting cycle of a year in order to get a result which would be a fair one.

CHAIRMAN REUWER: Take the case of the contract that extends over a period of a year and one-half.

MR. COOPER: In that case, I would say you would take the results for one year and the portion that was completed in that year, and for the next year the portion completed in the first half of the year. You may not get one rate to apply over the year and one-half. You would get two rates.

CHAIRMAN REUWER: Each rate would be a yearly determined rate?

MR. COOPER: A yearly determined rate.

CHAIRMAN REUWER: I happened to have something to do with an adjustment by a revenue agent upon one contract where he used the actual overhead rate for a period of five months.

MR. EBERT: We had the same experience.

CHAIRMAN REUWER: They adjusted it?

MR. EBERT: For the actual period in which the contract was going through the mill.

CHAIRMAN REUWER: That has been my observation.

MR. COOPER: Would they cut it off on the twenty-second of a month?

CHAIRMAN REUWER: They might give way and go to the end of the month on that.

MR. COOPER: If you can consider each month's closing as a preliminary closing, then there is no more reason for cutting it off at the end of the month than there is at the end of the week because you close the payroll at the end of the week.

CHAIRMAN REUWER: The point is that in the past they have been taking the actual overhead expense and using that figure to adjust the overhead cost allowable on contracts for a period representing the time during which you worked upon the article, the subject of the contract.

MR. HEALEY: Regardless of the rate of overhead you used, and striking out those items that they wouldn't accept?

CHAIRMAN REUWER: Adjusting the budgeted absorbed overhead on your actual job cost records.

APPLICATION OF ADMINISTRATIVE EXPENSES

GEORGE D. ELLIS (*Secretary-Controller, Combustion Engineering Co., New York, N. Y.*): Apart from shop overhead there are administrative overheads which in their entirety or in some of their classifications are more directly applicable to the sales concluded in any period than to the production put through in the same period and are more properly allocable on sales volume. This affects determinable costs on long-term contracts—those that are booked in 1940 and completed in, say, 1942. Is it possible to cost certain classifications of such overhead on the basis of the year in which the sales contract was made, and other classifications of such overhead on the basis of the year in which the goods were produced, or the period in which they were produced?

CHAIRMAN REUWER: Would someone volunteer an answer to that question?

MR. HEALEY: In the period in which produced.

MR. ELLIS: Entirely in the period in which produced?

MR. HEALEY: Yes, only in that period.

ACCELERATED DEPRECIATION

KENNETH J. FINGER (*Cost Accountant, Hummer Manufacturing Co., Springfield, Ill.*): Has anyone accelerated their depreciation rate during these times of working on two and three shifts?

CHAIRMAN REUWER: A very pertinent question, that of accelerated depreciation. What has been your experience on that, if any?

MR. HEALEY: None to date that I have heard of, and we will certainly welcome an opportunity to discuss it with someone who has had good results with it.

CLARENCE CROCHERON (*Contract Manager, The American Appraisal Co., New York, N. Y.*): Section 23 of the Revenue Act permits the write-off of depreciation with respect to units of production. However, the periodic depreciation to be taken as a deduction from income is a matter of fact and must be proved. It would seem to me that if the life of the item in question will be shortened on account of double or triple shift operation, the depreciation could be accelerated to recover the cost over the shorter remaining productive useful life. Such a procedure is in compliance with Treasury Decision 4422.

MR. EBERT: That subject is so confounded right now that the Treasury Department is still trying to work it out.

CHAIRMAN REUWER: Has anybody any comments or question on the subject of accelerated depreciation? No doubt it will apply with increased emphasis in the future.

DAVID HIMMELBLAU (*Head, Accounting Department, Northwestern University, Chicago, Ill.*): Accelerated depreciation is a matter

of proof. I don't think you are going to have anything different now from what you had before. If you can prove that your depreciation has actually increased due to two or three shifts, you will have no difficulty getting an allowance. If you want to get it on mere theory, you haven't a chance.

CHAIRMAN REUWER: It is interesting to observe one of the proposed changes in the law now before Congress regarding overtime. The present bill, unless it has been changed in the last day or so, provides that a limitation of overtime employment be made in an effort to help increase employment by requiring that overtime shall be worked only by those employees performing work that cannot be performed by other employees. That has a slight relation to accelerated depreciation.

Of course we mustn't forget, in considering this subject today, that this law is subject to change within a very short time. The question before Congress now is whether to reduce the rate of allowed profit from 10 and 12 per cent down to 7 per cent. Then I believe they have inserted a substitute profit limitation based on cost. The rate I heard last, I think, was 7.53 per cent of cost, so that this thing is going to be very technical before we get through with it.

DEPRECIATION ON FULLY DEPRECIATED ASSETS

L. DUDLEY STAFFORD (*District Manager, The American Appraisal Co., Detroit, Mich.*): There is a point which is not clear to me. In giving consideration to depreciation as an element of cost, should depreciation be spread in accordance with that which is allowed upon the tax return, or may it be spread in accordance with that which would take into consideration the cost of all assets in use, whether fully depreciated or not.

CHAIRMAN REUWER: That is another important question, whether you can take as a deduction or cost on Vinson Act contracts depreciation upon fully depreciated equipment. Will someone volunteer an answer to that?

We can determine that the rules and regulations under profit limitation acts will be originated independently of income tax regulations. We might have a basis for thinking that some things can be done with

a lot of items under the Vinson-Trammel Act that cannot be done under ordinary income tax rules and regulations.

Is there any basis for thinking that these regulations are subject to independent consideration separate and distinct from income tax regulations?

MR. EBERT: I believe there is some basis for thinking there may be some change, but only on new equipment, to take care of any expansion brought on by an emergency. For any old equipment that has been fully depreciated, I am afraid that is gone.

MR. KASSANDER: I think we might take this thought into consideration a moment: The regulations state that these individual contract costs must be supported by books of account. We might think for a moment that if we begin charging depreciation on fully depreciated assets, perchance we will have an offsetting income item somewhere in the income account which, in turn, will have to find its application to those contract costs. Basically, I think the way it is going to work out is that if you charge depreciation on fully depreciated assets, somewhere the income item will be picked up at least partially to offset it, because you have to tie up with the books on the contract cost.

CHAIRMAN REUWER: Fully depreciated items are supported by the books in prior years, aren't they?

MR. KASSANDER: Yes, not on the current contract.

CHAIRMAN REUWER: That brings up an interesting aspect of the question. Should we deal only with recorded costs and expenses of the current year, or during the period in which we work upon the contract subject to the Act, in contradistinction to the previously recorded expenses of prior years? Are we limited only to the recorded costs and expenses of the current year, or may we look back and see what direct costs we might have had upon the article which we are furnishing under the government contract?

MR. KASSANDER: I think there is some relation in this problem to that of the experimental and development expenses which we discussed earlier.

CHAIRMAN REUWER: Yes, it is an item of that nature.

MR. COOPER: Mr. Chairman, it seems to me if a company is using fully depreciated equipment, it is an indication that the depreciation rates have been too high, and it would hardly be a good argument to use to get more depreciation in the cost.

CHAIRMAN REUWER: Isn't that automatically taken care of by T.D. 4422? Mr. Russell, did you discuss that this morning?

MR. RUSSELL: I think the two items are very closely connected, and we are going to have the Treasury officials determining the facts both for contract costs and for income tax returns. If you have made an estimate of the useful life and have been allowed deductions on your tax returns, I don't think you can restate the item and do it over again because you now have a Vinson Act contract.

MR. STAFFORD: I have been of the opinion that it is quite common practice in cost accounting to carry forward two distinct depreciation computations. It doesn't necessarily follow that depreciation for cost accounting purposes will be the same as depreciation deductions on the income tax return.

I was hoping my question would bring out an answer to the problem of whether, when you are computing depreciation for cost accounting purposes other than the allowance taken on the tax return, you must adjust your cost accounting methods to get depreciation for Vinson Act purposes.

CHAIRMAN REUWER: I think we shouldn't overlook the fact that the regulations, published in the very beginning on the question of costs, state that costs shall be the sum of direct costs and any proper proportion of any indirect costs.

We might be in the position of being able to prove direct costs of producing an article subject to the Act by going back and picking up any non-booked items of cost and bringing them in under a legalistic definition of cost, upsetting some of our notions of correct cost accounting principles, perhaps. It is a very interesting aspect.

MR. ELLIS: If it were possible to claim costs of depreciation already closed in a prior year, why wouldn't it be possible to claim some

classifications of administrative costs incurred in the prior year in which the contract was sold? I asked that question a little while ago and was told that such costs incurred in the period of production only would be allowed. If depreciation on equipment fully depreciated could be included in current production cost, then why not include the administrative overheads as determined for the year in which the contract was sold?

CHAIRMAN REUWER: I agree with you, Mr. Ellis, it would be possible to go back and ascertain any direct items of administrative expenses that might be applicable to this particular contract, excluding those from the indirect administrative expenses which are later apportioned to the contract under the indirect cost classification. The emphasis there is on the proper determination of what is direct cost and what is indirect cost.

MR. HEALEY: In answer to Mr. Ellis, I can say that in the case of aircraft companies a physical article is first applied on a development contract, so that you really wouldn't have too much of this drafting in preparation for a contract which had been obtained previous to its production. There is always considerable in the way of changes after you receive a contract—as a matter of fact, up to the completion of the production contract. But the physical article is first supplied under a development project, and that brings us back to the question of whether you can recover previous development costs. However, I did want to clear that one point on drafting.

OVERHEAD ON PLANT CONSTRUCTION OR INSTALLATION

MR. PIXTON: In regard to the absorption of overhead on plant construction orders with government contracts going through the plant, how do you determine the amount chargeable to any plant construction going on at the same time with the same crew and same general supervision?

MR. HEALEY: In our particular case we do not apply overhead to plant construction or plant maintenance. Is that what you had in mind?

MR. PIXTON: You don't apply any factory overhead?

MR. HEALEY: Yes, to production, but not to plant construction or plant maintenance. Do you, Mr. Davis?

THOMAS DAVIS (*Treasurer, Republic Aviation Corp., Farmingdale, L. I.*): We do a good deal of our own equipment manufacturing, and we do not apply any factory burden to those items of equipment that we build other than special production jigs and tools. Where it runs into extended manufacturing and production facilities, such as new buildings, we, of course, don't do that work ourselves.

CHAIRMAN REUWER: What bearing does that have on the Vinson-Trammel profit limitation? Only in the sense that it reduces the overhead that might be applied to government contracts?

MR. PIXTON: That is just the point I wanted to bring out, whether or not you could omit that in the determination of profit. You wrote up building construction overhead and loaded it on to your jobs.

CHAIRMAN REUWER: Was your question answered satisfactorily?

MR. PIXTON: As I understood the gentleman, he said they do not apply any factory overhead to plant construction. Is that correct?

MR. HEALEY: That was my answer, and also that of Mr. Davis.

MR. PIXTON: All your plant overhead would go through on your customers' orders? Is that right?

MR. HEALEY: Yes, sir.

MR. PIXTON: Whether government orders, or other kinds?

MR. HEALEY: Unfortunately. My reason for saying that is that no recognition is given to export expense in obtaining export business, yet under the Vinson-Trammel Act the absorption of overhead on export business favors the Vinson-Trammel Act. Do I make myself clear?

MR. PIXTON: In that respect, yes. Referring again to the plant construction proposition, I don't see how the authorities would not

allow you to charge overhead to plant construction during the period the contract was being executed, and allow you to load all your plant overhead on your orders.

MR. HEALEY: Mr. Davis answered that very ably in saying that, after all, the aircraft manufacturer is not in the construction business, and major construction work is usually done for us by construction companies.

MR. PIXTON: Some of the factories probably do some part of their plant construction, machine installation, and things of that sort, and those job orders, in my experience, are not for the War and Navy Departments, but for the Maritime Commission. I was wondering whether it was different in respect to the Maritime order from those from the War and Navy Departments.

MR. HEALEY: In the construction of aircraft there are three major divisions: productive labor, tool labor, and engineering labor, all of which are direct and enter into the actual fabrication of the finished part. You must remember that in most cases the tools which we manufacture for one airplane are not useful for subsequent models, and for that reason we throw all our tool cost into the complete cost of one contract. That tool labor does bear overhead.

CHAIRMAN REUWER: If there are no further questions concerning cost and expense elements of contracts, we will pass to the consideration of net loss carry-over, or deficiency in maximum profit to carry-over under the Act.

The present law allows you to carry over a net loss on naval vessels and portions thereof for one year, and on Navy and Army aircraft for a period of four years, with the addition that on aircraft you can carry over a deficiency in profit earned for four years. Are there any questions concerning that feature?

If not, are there any questions concerning plant extension and loans for plant extension, construction, or additional facilities required for performance under government contracts?

I would like to know if anyone has had any experience in connection with the so-called closing agreements with the Treasury Department on government contracts that they would like to comment upon.

It might be well to have extended use of closing agreements in the future on government contracts.

The main indictment of these profit limitation acts on the part of businessmen is the fact that you are not in a position to determine what your ultimate result will be for a considerable period after the contracts have been completed and reported upon. If, in some way, we could determine as we went along, or in advance, what the ultimate tax result would be, we would be in a much better position to know what course of action to take.

There have been several closing agreements made with respect to additional facilities required for government orders, but it hasn't been extended as yet to any procedure for closing agreements with respect to products as covered by orders subject to Vinson-Trammel Act provisions.

PROPOSAL TO NATIONAL BOARD

MR. RUSSELL: At luncheon today several of us had an interesting discussion along the lines of this meeting. We know that the Advisory Commission to the Council on National Defense is this week and next giving serious consideration to a study of what type of cost contracts are best suited to the present purposes. We have the cost accountants of the United States fairly represented in this convention, and it seemed to us that it would be entirely in order for our Association to at least offer some degree of co-operation on the study of the best type of cost contract.

With that idea in mind—of course, I don't think this meeting has any right to pass any binding resolution—I am going to offer a resolution merely in the form of a suggestion to our own National Board. The action, of course, would be subject to their own judgment in the matter. I offer this resolution:

That this meeting recommend to the National Board of N.A.C.A. that they communicate with the Advisory Commission of the Council for National Defense offering the services of a committee, if such services are desired, in the studies now being made by the Commission on the subject of cost contracts.

CHAIRMAN REUWER: That is a resolution offered in an advisory capacity by this meeting to the National Board.

Is there a second?

MR. GILLANE: I second it.

CHAIRMAN REUWER: Duly made and seconded. Are there any comments with respect thereto? If not, a vote is in order. All those in favor please say "aye"; contrary, "no." It is so ordered.

We will report to the National Board on the subject, and I am sure they will give it very mature consideration.*

If there are no more questions on the subject, we will adjourn at this time.

. . . The meeting adjourned at five-five o'clock . . .

* The National Board, acting upon the above resolution, authorized the National Secretary to communicate with the Advisory Committee to the Council for National Defense offering the services of the Association in connection with cost problems arising from the defense program.

SESSION III

MODERN APPROACH TO OVERHEAD
APPLICATION

WEDNESDAY MORNING, JUNE 26, 1940

DAVID HIMMELBLAU, Head of the Accounting Department,
Northwestern University, Chicago, Ill., *Chairman*

HARRY E. HOWELL is used to carrying on several jobs at the same time. He is not only Controller of the Grinnell Co., Inc. of Providence, R. I., with which company he has been affiliated for the past 20 years, but is also engaged in public accounting as a Partner of the firm of Howell and Rison. In addition, he utilizes his spare time to teach accounting classes in the Providence division of Northeastern University. The other members of the Program Committee, recognizing this versatility, drafted Mr. Howell to appear on the convention program while serving as a member of the Committee. In addition to his accounting training, obtained in this country and in England, Mr. Howell holds the LL. B. degree from Northeastern University and is a member of the Massachusetts bar. His wide cost accounting experience includes ice manufacturing, wholesale lumber, brass, malleable and grey iron foundries, machine shops and sprinkler and piping contracting. Since joining the Association in 1924, Mr. Howell has been very active in the management of the Providence Chapter, as a member of the National Board and as a chapter and convention speaker. He was elected a Vice President of the Association at the St. Louis Convention.

ARTHUR C. CHUBBUCK began his career in the electrical construction field with a general contractor and with a shipbuilding company. Later, while in the railway mail service, he studied accounting and industrial finance through correspondence and evening courses, but his entry into the accounting field was deferred as a result of his enlistment in the World War. Upon his release from active service with the commission of Ensign, he reports that he "was temporarily engaged with the Boston office of Patterson, Teele and Dennis and am at present still there, not having been notified that my temporary service is ended." Mr. Chubbuck has been active in the management of the Boston Chapter, having served as its President for the year 1937-38. At the Atlantic City Convention last year, Mr. Chubbuck was Discussion Leader of the group dealing with plant accounting.

MODERN APPROACH TO OVERHEAD APPLICATION

CHAIRMAN HIMMELBLAU: When the Program Committee decided to devote a whole day to overhead, I thought we could assume that everyone understood the limitations inherent in burden distribution, and that we could concentrate on the job of how to streamline that work. But two experiences during the past month have caused me to wonder whether it is really true that everyone understands the basic limitations inherent in burden distribution.

In one case an interesting exhibit was presented showing net profits, as well as gross profits, by commodities sold. The directors had before them the question of discontinuing those items which showed a loss. A review of the spread between the gross and net profit disclosed two points: first, that most of the burden had been distributed substantially on the sales dollar basis; and, second, that the factors which caused the burden to be incurred had no relationship whatsoever to the sales actually made. It didn't take long to scrap that exhibit.

In the second case, occurring very shortly thereafter, an exhibit had been prepared showing: first, that a new classification of sales had accounted for nearly all of the increased sales volume during the year; and, second, that the new classification of sales showed a larger net profit than the prior classifications. In this case the directors considered the possibility of raising more capital to expand the new sales classification. A review of the spread between the gross and the net profit disclosed, first, that the expenses were dominated by a single item; second, that there was an alternative method of distributing that dominating item which, if used, would materially alter the net profits disclosed on the statement; and, third, what was more serious, that no one had made any study of the underlying facts to see which of the two possible methods of burden distribution would be the more accurate.

In view of two such recent cases, I have asked the afternoon discussion leaders to add this subject to those already listed on the mimeographed sheets which you now have.

A few words as to today's program. The burden problem will be

presented this morning in papers prepared by Harry Howell and Arthur Chubbuck. The entire afternoon has been set aside for discussion.

There will be four discussion groups. At 2:00 o'clock there will be one on "Problems of Overhead Distribution," under the leadership of Professor Taggart; and another on "Information for Foremen and Employees," under the leadership of Mason Smith. The rooms are marked on your program. At three-thirty, in the same rooms, we will have "Normal Burden and Burden Variances," under the leadership of Professor Gillespie; and "Depreciation," under the leadership of Jack DeVitt.

You have already been given a mimeographed outline of particular points it is planned to cover. However, you are not limited to those outlines. If there is anything on your mind that you want to discuss, bring it up and the leader will be glad to include it.

Our first speaker this morning is Harry Howell. Mr. Howell is used to holding down several jobs at the same time, so the Committee, wanting him to feel at home, has drafted him to deliver this morning's opening address, while acting as a member of the Committee.

STREAMLINING YOUR OVERHEAD

PROBLEMS ARISING FROM ADVANCED TECHNIQUES OF OVERHEAD DISTRIBUTION

HARRY E. HOWELL

Controller, Grinnell Co., Inc.,
Providence, R. I.

WHEN we streamline a product we strip it of everything that is unnecessary to its purpose; of everything which is traditional, ornamental or customary unless it is at the same time effective; and we ask ourselves three basic questions:

What result are we trying to produce?

Is this the most direct and efficient way to reach that result?

Will that result be a dynamic force?

The problem of overhead distribution has long been before us. The criticism has largely been met that cost accountants have spent time and effort in precisely allocating to products or processes the costs of material and labor, but have arbitrarily spread as "overhead" a larger total of cost than that which has been carefully allocated. Improved techniques in the allocation of costs to products and processes has made it possible to include on some basis that is rational, at least from a cost accounting point of view, a very great part of the overhead total.

When we measure cost accounting in its performance of the function of cost allocation on the basis of causal responsibility it appears to have done it satisfactorily; but the very success with which it has been accomplished has raised questions in regard to the effect of this advanced technique on other purposes of cost accounting. They are the subject of this discussion.

Acknowledgment

Before proceeding any further, I would like to acknowledge my indebtedness to sources of information from which the bulk of this material has been drawn.

You have doubtless found, as I have, that the publications of our Association, reflecting as they do the hard thinking of the industrial accounting profession, are a never failing source of information, inspiration and challenging ideas.

I am indebted to the writings of G. Charter Harrison, to Eric Camman's *Basic Standard Costs*, Charles Reitell's texts, Jonathan Harris' paper on "What's Wrong with the Profit and Loss Statement," and to many others, and in particular to J. Maurice Clark's *Studies in the Economics of Overhead Costs*, published in 1923.

Terminology

Perhaps it is fortunate that one generation acquires as instinctive knowledge only a minute fraction of the sum total of experience of its predecessor. It becomes necessary to retrace each progressive step and to cover the ground more thoroughly.

The first thing that strikes one who reviews the literature on overhead distribution is the voluminous and inexact terminology. Terms such as variable, constant, fixed, direct, indirect, volume variance,

usage variance, absorbed, are used with different meanings or connotations by various authors.

Cost accounting has been incorrectly termed a science, possibly because its terms are sufficiently inscrutable to the uninitiated to appear scientific.

To quote Hamilton Church on the confusion of ideas:

Overhead expense in manufacturing is defined usually as consisting of the so-called "fixed" charges (such as rent, interest, depreciation, insurance, taxes, etc.) plus all that large class of expenditure on labor and materials which cannot be charged definitely to any given job or lot of product.

Overhead is also frequently referred to as "indirect expense," a definition that expresses very clearly the mental picture formed by many people, in which expenditure that is easily measurable . . . occupies one-half of the picture, and all other expenditure, compressed into a jumbled mass, forms the other half.

Overhead, again, is frequently termed "burden." This term also illustrates a state of mind. The mental picture corresponding to the term would appear to represent direct labor as struggling under a heavy load. Burden seems to signify something that inevitably must be paid for, but of which the value is in great degree under suspicion and its appearance as an element of cost reluctantly and grudgingly accepted.

For the purpose of this paper I shall try to keep away from terms which are not self-explanatory, and the first distinction that I want to make is that the term "overhead" is here used to represent that large body of cost which cannot be allocated to any given job, product or process on the basis of causal responsibility.

Factory overhead which arises as the direct result of putting a product or process through the factory, or which directly varies as it is used to provide a service from which the product or process definitely benefits, is not considered within this definition. The costs making up such overhead are considered direct costs of the product, merely requiring some special technique of allocation.

Basis for Distributing Service Department Costs

The definition used requires great care in handling costs which are distributed on a service basis as, for example, the charge for power consumption. This was very well brought out in the *N.A.C.A. Bulletin* for November 1, 1935, by Charles F. Schlatter, Assistant Dean, College of Commerce, University of Illinois, who points out that to

obtain correct results if service department expenses are distributed on the ratio of actual consumption of service, it is necessary to separate the service department expenses into fixed expense and variable expense, and distribute each on its own basis. Professor Schlatter points out that the amount for fixed expense in a service department is caused by the capacities of the other departments to consume service, and therefore should be charged to the consuming departments in the ratio of their capacity to consume, while variable expenses are activity expenses and should be distributed in the ratio of the consumption.

To repeat, we use the term "overhead" here to represent those costs which are practically fixed for a fairly wide range of business activity—a class of costs which some authors term "cost of readiness to produce" as distinguished from the "cost of actually producing."

Purposes Served by Overhead Distribution

Proceeding, therefore, with our problem of streamlining, we must ask ourselves: Why should the accountant distribute this overhead? It is going to cost money to do it and unless it produces something which will bring about an economic gain, it is not justifiable as a business undertaking. It seems that we must consider whether we need to do it for the purpose of financial accounting in producing:

- a. An accurate profit and loss statement, and
- b. An accurate balance sheet; and

for the purposes of cost accounting in producing:

- a. Proper inventory valuations,
- b. Control of manufacturing and distribution costs, and
- c. Accurate cost estimates.

What are some of the things we must consider before we can answer that question? First must come a realization that many different kinds of people are concerned with information about costs and that no one universal cost can satisfy all needs. The promoter, the engineer, the manufacturer, the financial accountant, the cost accountant, the statistician, the economist, the government contract auditor—all approach the problem involving the use of costs from different angles and with different objectives in view.

No All-Inclusive Cost Possible

Cost accounting has a number of functions calling for different and what sometimes appears to be inconsistent information. If it seeks to find the one all-inclusive "cost" which will furnish exactly the information for every possible purpose, it will necessarily fail.

With this in mind, we see that so far as the financial accounting function of producing a profit and loss statement and balance sheet is concerned, some fairly definite formula for the ascertainment of costs used in this specific connection might be possible. The inherent limitations of these two statements to serve every purpose for which one may need financial information is another subject, one familiar to you all, which arises from the same difficulty, namely, the impossibility of making "all-purpose" statements for all users.

But with the manifold uses and the variety of users of "costs," a duty of clearly understanding the purpose to which a particular cost is to be put is placed upon the controller and his cost department. While furnishing "accurate detailed information of the cost of a service, product, job, department or process, analyzed into its component parts" may fully carry out the function of cost accounting as it is usually defined, it falls short of meeting the requirements of the business world which looks to the controller for "information about costs."

Cost accounting, like financial accounting, suffers because of the medium in which its conclusions are expressed. There is a "delusive appearance of accuracy"¹ in the very nature of figures, and double-entry bookkeeping and balancing are apt to betray us into the fallacy of assuming that because the symbols we use conform to accounting conventions we have found truth itself.

Recovery of Fixed Costs Not a New Problem

The problem of recovering the fixed costs of business has faced the trader from ancient days. His fixed costs probably were his living expenses. He knew his only way to recover them was to get more for his wares than he paid for them. He had no cost accountant, Robinson-Patman Act or Fair Trade law to establish a cost below

¹ See: "Accounting for Investors" by Jerome Frank. *Journal of Accountancy*, November, 1939.

which he could not go. He assessed his overhead to the product on the basis of what the traffic would bear. He reduced his assessment to stimulate greater sales of an item, and only occasionally was the assessment made to the product on the basis of its responsibility for the overhead in the first place, or the benefit or use it derived from it. Even then his figures were (as they are today), adjustable on each sale. His offer started high, the buyer's bid was low, and the ensuing trading (with the seller trying to retain every cent above his direct cost) produced the final price.

The idea of one price to all customers at one time is a recent idea not too well established today, and, so long as discrimination in price is necessary to develop or survive, cost accounting must furnish the data upon which decisions may be reached, with full realization of the fact that "any concept of cost demands recognition if it has an actual effect on prices or policies of production, no matter if it is illogical or positively incorrect."²

Accounting Methods of Cost Allocation Not Enough

We have part of the answer to the question, "Why should the accountant distribute overhead?" At least we know that overhead treatment is one of the most fundamental business problems; that we have the basic data upon which to do it; that if we don't, someone in the business will. Yet we know the accounting method of cost allocation used exclusively will not give all the "information about costs" required by different people for diverse uses. It will not help us with a proposed new plant, or a proposed new line of product, or a projected alternative process, because it deals with historical costs.

It will not of itself show whether it is economical to change from the present to a proposed method of production. It will not show us costs of various alternatives such as taking or refusing certain business; or whether an increase in volume will involve a proportionate increase in fixed costs, or more, or less.

We must add to cost allocation by accounting technique, cost allocation by means of statistical studies (comparisons of cost observations), and supplement these two with estimates of practical men whose experience and judgment can supply the data available from no other source.

² Clark, p. 48.

The Time Factor

When cost accounting is tied in directly with the financial books there is set up a conflict between two basic ideas: the first that costs shall be allocated to the product as accurately as possible, and the second that costs shall be allocated as to periods of time. The profit and loss statement and balance sheet are merely compilations of all the financial figures in relation to a period of time. This conflict may result in a misunderstanding of the profit and loss statement by those who think it shows the net result of completed sales transactions less costs and expenses for the period and who do not realize the effect of an increase or decrease in inventory during the period.

Perhaps we have the rest of the answer to the question when we say that in making these allocations the various concepts of cost must be understood and the techniques necessary to develop them used without reliance solely on the accounting method.

The extent to which overhead distribution is an important element affecting the accuracy of the profit and loss statement and the balance sheet can be measured in one question: To what extent are we justified in including overhead costs in the inventory valuation? To the extent that they are so included, these costs are by-passed from the current profit and loss statement and included in the balance sheet as an asset; thus impounded in the asset account, they are only released therefrom when the sale is reported on a subsequent profit and loss statement, when they appear as part of the cost of goods sold.

Overhead in the Inventory—Balance Sheet Viewpoint

Examining this question, first as to the effect on the balance sheet, we may inquire what overhead costs we are justified in including as part of the valuation of inventory.

With the development of cost accounting techniques which bring more and more of the total cost of the business against specific products, there is a tendency to assume that the cost thus obtained is satisfactory for inventory valuation provided that it is not in excess of the market. We will overlook the lack of market prices for work in process, specialties and monopolistic finished goods; and we will assume that the market, wherever it exists, is sufficiently high so that no matter what we include in our cost, the market will not be the basis for inventory valuation. Nevertheless, depending upon the cost system, we may still have inventory valuations which may vary

to the extent that one cost department includes only direct cost of labor and material; another, direct cost of labor and material and a flat charge for factory overhead; while still another has picked up most of the "costs of doing business" either as service charges or burden applications. Are all three correct? If so, it makes the skill and resourcefulness of the cost department, or the lack of it, the chief element in the valuation of inventory.

Sometimes, when it is taken for granted that whatever can be so allocated automatically becomes the inventory valuation, these values will increase from year to year, merely because the cost accounting department becomes more proficient in its technique of allocating costs to the product. But the trading account method of determining gross profit is unsatisfactory for modern industrial enterprises, and the inventory, whenever nothing but direct material and direct labor is costed into it, is usually understated by the omission of expenses which contributed to an increment in value.

Have we a principle which will tell us where, for financial accounting purposes, our cost allocations should cease—in other words, at what point a recognizable enhancement of value ceases and further additions of expense to the cost of inventory are merely impounding items which should appear as an expense on the current profit and loss statement? Some of our allocations, while measuring an increase in "cost," are not thereby automatically bringing about an increase in "value."

We are beginning to realize that catch terms such as "cost or market, whichever is lower" or "conservative accounting" lead to pitfalls. In this connection the June, 1940 issue of the *Journal of Accountancy* includes a statement by the Research Department of the American Institute of Accountants outlining "the basic propositions affecting the statement of inventories in the accounts." Incidentally, they ask for comment and the controllers and cost accountants of the N.A.C.A. should make their contribution to the development of definite principles of inventory valuation.

Some Basic Propositions

Four of the points mentioned as basic propositions are the following:

1. The determination of profit and loss is the main consideration.

2. The primary basis for inventories is useful (or recoverable) cost.
3. It is undesirable to specify any one rule for determining cost—to the exclusion of others.
4. But consistent practice from period to period is essential, and changes of practice should be explained.

"The primary basis for inventories is useful (or recoverable) cost." Does this give us a conclusive formula? Referring to the dictionary:

(A) *Useful* is defined as being "full of use, advantage, or profit producing or having power to produce goods. Serviceable for any end or object. Helpful toward advancing any purpose."

(It seems to reflect a state of mind of the owner of the inventory rather than the one who is to buy . . . possibly of the management rather than the stockholder or investor.)

(B) *Recoverable* is defined as "capable of being recovered or regained."

Under this definition the entire total cost of a business could be included in the inventory valuation, provided that some basis of allocation was found, and justifiably left there if the market price of the commodity were sufficient to return this total cost; in other words, if this total cost were recoverable. Both definitions would challenge the inclusion of certain burdens sometimes applied to raw materials and work in process.

Overhead in Inventories—Profit and Loss Viewpoint

Let us now refer to the profit and loss statement which is rapidly becoming recognized as of greater importance than the balance sheet in financial investigation, probably because it is supplanting the single-entry idea of a comparison of balance sheets to compute the increment in net worth, a method quite inadequate for modern business.

It is ordinarily said that conservative practice demands that we do *not show profits* until we have sold the goods and that we *show losses* when they occur. When we take expenses out of the current profit and loss statement and include them as an asset in the balance sheet, we have reduced the loss for the period. It therefore seems proper

to add to the conservative practice formula "except that losses need not be shown for any costs which it is proper to defer because they have caused an increment in the value of the inventory." There should, it seems, be a definite limitation on the costs thus taken out to those which have recognizably added to the value.

Allocation of Fixed Costs between Periods

There is a further effect on the profit and loss statement arising from the conflict of allocations of fixed costs to inventory and the division of costs into periods of time. The fact that production may not fluctuate concurrently with sales results in an addition or a reduction in inventory between the beginning and ending period of time of a profit and loss statement. To the extent that fixed costs have been included in inventory, the current profit and loss statement, considered as a measurement of the profitableness of current sales activity, is distorted.

This point was ably developed by Jonathan N. Harris in an article in the *N.A.C.A. Bulletin* for January 15, 1936, entitled "What Did We Earn Last Month?" which presented the common point of view of the layman reading the profit and loss statement. While I do not agree that the solution is to state the inventory value without any portion of fixed costs, I do believe the effect on the profit and loss statement of "inventory investments" as distinguished from "completed sales transactions" should be disclosed in order to show the results of current sales activity. Making goods for stock increases the amount available for dividends by creating an excess of asset values. To the extent that this increase consists of deferred expenses which the ultimate consumer might not pay for, or which, if he did, would still reduce the gross profit of later periods, its disclosure in the financial statement seems necessary. The desirability of arranging the accounts to show income available for dividends from profitable finished transactions and to have this dividend paying ability neither increased nor diminished by the effect of unfinished transactions seems clear.

The interest of the Securities and Exchange Commission in this matter is shown in the instructions as to "2A, Cost of Goods Sold" and the details required to be furnished on "Schedule X." Such items as:⁸

⁸ "Accounting Requirements of the Securities and Exchange Commission" by B. Bernard Greidinger, Ph.D.

Maintenance, repairs, depreciation, depletion and amortization of fixed and intangible assets, taxes other than federal income and excess profits, management and service contract fees, and rents and royalties, must be set out and the disposition to profit and loss, to cost of sales, and to other accounts must be shown.

Cost accounting cannot be blind to the effect of its techniques on the soundness of the information conveyed by the financial statements, and it must develop the means of performing its own function without destroying the effectiveness of financial accounting.

Cost Control Developments

Considering overhead distribution for cost accounting purposes, the first function, "inventory valuation," we have already discussed. The second, "as an aid in the control of manufacturing and distribution costs," has been performed with outstanding distinction. Here the search for causal responsibility has led not alone to accurate allocation on a logical basis of an increasing portion of total costs but to economies and efficiencies and control mechanisms that have fully justified the work of the cost accountant. It has developed sound costs which, as one of the determinants of selling prices, have acted as a check on cut-throat competition, and a basis for normal prices. It has helped control inventory, detected losses and wastes, and separated the cost of idleness from the cost of producing goods.

The development of standard costs has made this possible with a minimum of work and a maximum concentration of management effort on the matters needing correction. These same accomplishments have made the third function, "making estimates of cost," even more accurate and trustworthy, at least as to goods produced or capable of being produced by existing equipment or processes.

Suggestions for Improvements under Standard Costs

If opportunities for streamlining the accounting for overhead exist here, I believe it is in the following places:

1. As to the treatment of variances

When standards are used, the agreement between the cost accounts and the financial accounts is nominal and is effected only by means of these variance accounts. While we may be fairly positive that we are sound in ignoring actual costs and substituting standards for many purposes, it is open to question whether such substitutes, made on bases for which the

auditor cannot vouch, should oust the actual figures from the balance sheet. Camman's *Basic Standard Costs* develops this point very clearly and meets this objection.

2. *As to the setting of standards*

The establishment of some predetermined standards for fixed costs is recommended for any type of industry:

- a. To prevent unwarranted fluctuations in actual cost during periods of low or peak productions.
- b. To avoid the inflation of inventory values during periods of depression.
- c. To enable the quick compilation of monthly profit and loss statements.

In setting standards for these purposes, particularly those which constitute the normal base for absorption of overhead, serious errors in policy making may occur if the bases are not set, or at least fully understood, by the management itself, equipped with a complete knowledge of the results of figuring on capacity to produce, as distinguished from capacity to sell, and of alternative computations as to volume, fixed expenses, and probable selling prices at various levels of market coverage.

While, in many situations, to make a start, the controller must set these standards, their determination is really a function of the whole management with his counsel and advice.

Where standards are used to control processes, products and departments and to measure efficiencies, they must be set with a precision and often by technical processes beyond the scope of the cost accountant.

Some Further Questions

In the process of streamlining we might well ask ourselves:

1. Are the financial statements distorted by the treatment of variances?
2. Can the controls of the cost of operations be best refined and intensified by time-study methods and cost and methods engineers in the factory rather than cost men in the office; by fewer control accounts but more statistical cost studies; by a development of flexible budgeting and similar devices into management controls and reports not necessarily carried in detail through the financial accounts?
3. Have we such a basic system of recording and collecting costs that they are available in the groupings necessary to compile figures under *all* of the various concepts of cost?

EXHIBIT 1
COST ELEMENTS FOR DIFFERENT PURPOSES

| COST ELEMENTS (Illustrative and not intended to be complete) | | A: | | B: | | C:** | | D): Computation of Differential Costs of varying volumes or of Alternative Policies | |
|--|---|---|--|------------------------------|------------------------|------------------------------|------------------------|--|---|
| | | Cost Allocation to Product (Consuming basis of distribution on causal responsibility is obtainable) | Cost for Purposes of Valuation (It is understood that a market price if lower may supersede) | Raw Material | Work in Process | Finished Goods | Below Normal Capacity | At Normal | Above Normal and up to Potential |
| DIRECT COSTS: | | | | | | | | | |
| MFG.: | | Y _{es} " " | Y _{es} " " | Y _{es} " " | Y _{es} " " | Y _{es} " " | Y _{es} " " | Y _{es} " " | Y _{es} " " |
| A. Constant: or varying exactly in proportion to production. | Constant Overhead | " | " | " | " | " | " | " | " |
| B. Fixed or unaffected by production. | Freight In Receiving In Order Filing Containers Stock Records | " | Y _{es} " " | Y _{es} No " " | Y _{es} " " | Y _{es} No " " | Y _{es} " " | Y _{es} " " | Y _{es} " " |
| WAREHOUSING: | Salesmen Compensation Travel Expenses | " | Y _{es} " " | Y _{es} " " | Y _{es} " " | Y _{es} " " | Y _{es} " " | Y _{es} " " | Y _{es} " " |
| OWNER: | Order Entry Billing Accounts Receivable Stock Buying | " | Y _{es} " " | Y _{es} " " | Y _{es} " " | Y _{es} " " | Y _{es} " " | Y _{es} " " | Y _{es} " " |
| DELIVERY: | Freight and Trucking Shipping | " | Y _{es} " " | No " " | No " " | No " " | Y _{es} " " | Y _{es} " " | Y _{es} " " |
| ADVERTISING: | | | | — | — | — | — | — | — |
| TAXES: | Gross Receipts | " | Yes | — | — | — | Yes | Yes | Y _{es} |
| FIXED COSTS: (at least within normal operating range) | | | | | | | | | Preferably at a NORMAL ABSORPTION RATE |

| | | | | | | | |
|---|----------------|--------|--------|--------|--------|---------------|--------|
| Mfg : | Supervision | Fixed | Yes | No | No | Yes | No |
| Depreciation (xxx) | " | " | " | " | " | " | " |
| Insurance | " | " | " | " | " | " | " |
| Real Estate and Personal Property Tax | " | " | " | " | " | " | " |
| Waiver/overruling: | | | | | | | |
| Supervision and Stand-by Crew | " | Yes | No | No | No | Yes | No |
| Depreciation—Real Estate and Personal Property Tax | " | " | " | " | " | " | " |
| SELLING: | | | | | | | |
| Supervision and Sale—Salesmen's Fixed Compensation | " | Yes | No | No | No | Yes | No |
| Order: | | | | | | | |
| Standby Crew Supplies Depreciation of Equip. | " | Yes | No | No | No | Yes | No |
| DELIVERY: | | | | | | | |
| Standby Crew Depreciation of Equip. Licenses, Fees, etc. | " | Yes | No | No | No | Yes | No |
| ADVERTISING: | | | | | | | |
| Office Expenses Name Advertising | " | Yes | No | No | No | Yes | No |
| ADMINISTRATIVE: | | | | | | | |
| Management Finance Purchasing Research | " | Yes | No | No | No | Yes | No |
| Taxes (Franchise, etc.): | | | | | | | |
| Fixed Fee Type Income Basis Type | " | No | No | No | No | Yes | No |
| Interest on Investment Properties Intangibles and Added Facilities | Fixed Constant | No " " | No " " | No " " | No " " | Yes or Profit | No Yes |

** See Exhibit 9.

(xxx) The "wear and tear" element of depreciation when figured on units of production rather than a time basis may be considered a direct cost, but the obsolescence element is essentially a fixed cost.

NOTE: The inclusion or non-inclusion notations are for the purpose of discussion in an effort to find a principle and are not to be taken as indicative of a settled procedure. Income taxes are treated as a sharing of the profit and not as a cost.

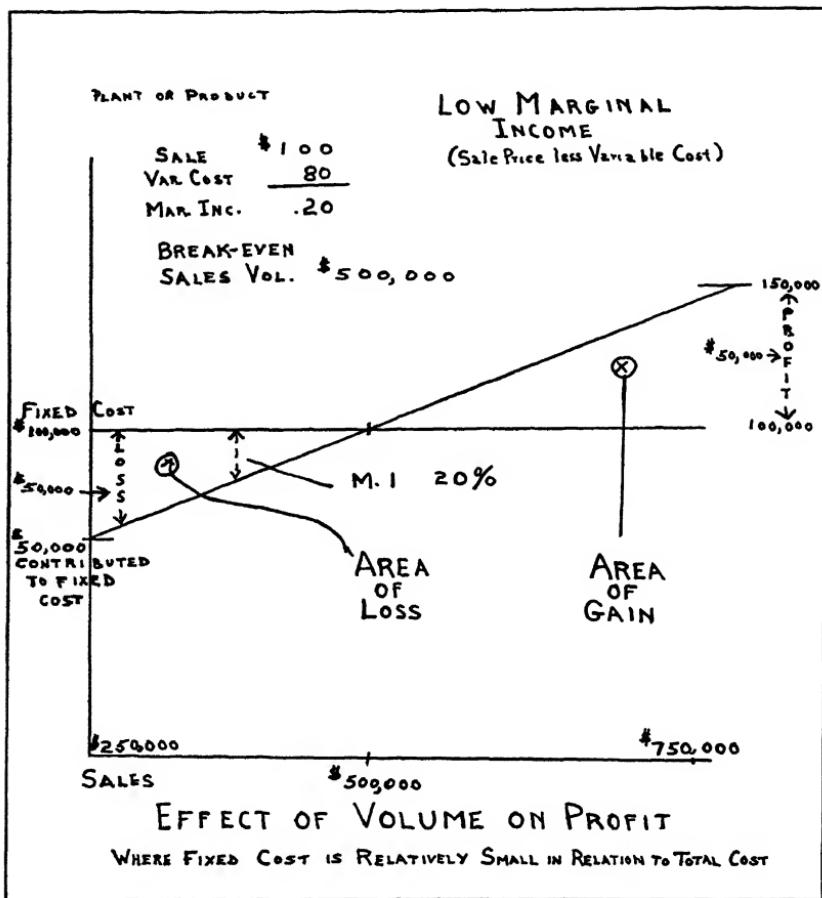


EXHIBIT 2

The chief necessity here would be to distinguish those overheads which are fixed regardless of production and those which vary with production. Too often they are now merged in functional account groupings which conceal this equally important grouping. The accounts should so reflect the basic figures in such groupings that we can arrange and rearrange the data to conform to the underlying concept of cost, so that we can give "information about costs" that will be usable for the particular purpose by the one who asked for it.

The accompanying exhibits deal with certain data, types of reports

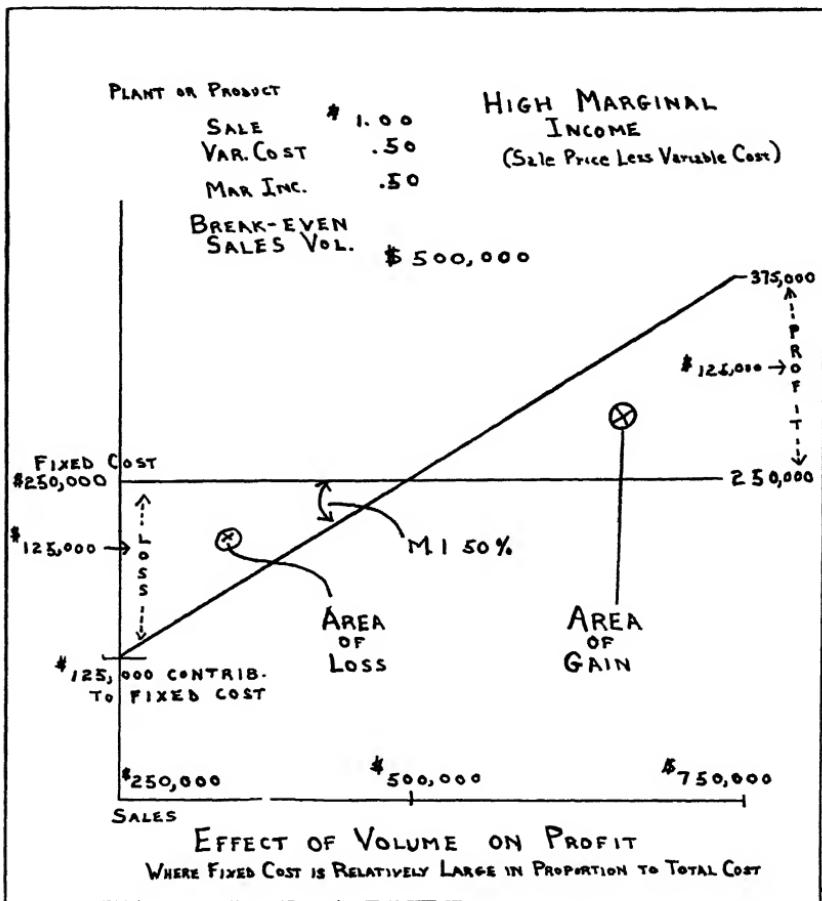


EXHIBIT 3

and information about costs, which it has been found difficult sometimes to extract from even an up-to-date standard cost system.

Different Concepts of "Cost" for Different Purposes (Exhibit 1)

I have prepared this exhibit in an effort to put in one place some of the different concepts of cost and the elements of cost. You will note that the elements of cost are in two groups:

- Constantly varying with production.
- Fixed and unaffected by production.

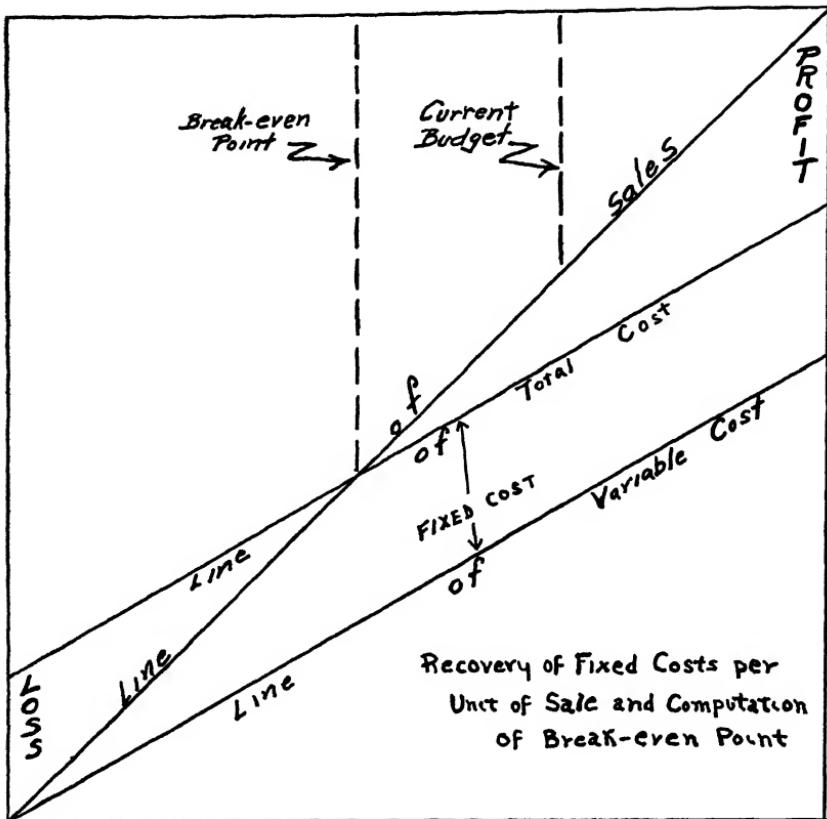


EXHIBIT 4

Further, that

For cost finding purposes, we would, if we could, allocate them all.

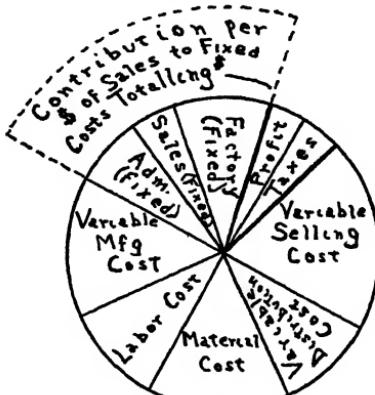
For inventory valuation purposes we would stop at the last recognizable increase in value.

For determination of minimum selling price, we (so far as cost is a factor) would want to know the total costs with the order and without it, i.e., the differential cost of the order.

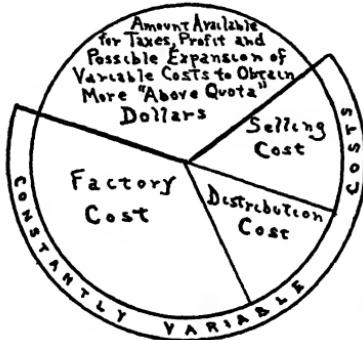
Effect of Volume on Profit (Exhibits 2, 3 and 4)

Problems of price setting, maintenance of volume, extent of market penetration, and competitive reaction require a knowledge of the effect of the factors of price, variable cost, fixed cost and volume

BREAKDOWN OF SALES DOLLAR Up To BASIC QUOTA
 AT STANDARD PRICES FOR BASIC QUOTA
 OF \$ ____ TO ABSORB FIXED COSTS TOTALLING \$ ____



BREAKDOWN OF SALES DOLLAR - Above BASIC QUOTA



NOTE: The question of 'breaking price levels' or 'spiking the market' must be considered but not as a cost accounting function.

EXHIBIT 5

because maintaining a balance of all of these factors is the first job of management and a prerequisite to profitable operation. Accurate decisions cannot be made if cost is treated as a total. The extent to which "fixed costs" contribute to total cost is the most compelling

factor in the weight given the cost information in making a decision.

These three exhibits are designed to show the need of clearly setting out the fixed costs as distinguished from the variable.

Loss of volume is undoubtedly a more serious matter in the high fixed cost industry; but in such industries maintenance of volume is sometimes achieved only at the cost of drastically reduced selling prices.

Exhibiting Influence of Breakeven Volume (Exhibit 5)

While the spreading of fixed cost to each unit from the first to the last is understood by the cost man, it sometimes is not understood by the business man whose gross is swallowed up by an "Unabsorbed Overhead Variance" or whose net suddenly rises at a rapid rate.

Up to the normal quota each sale contributes its bit to fixed expense. We can make no profit on any one unit or on any total of units until we reach the point where fixed costs are entirely recovered. Thereafter that same contribution becomes profit. A breakdown of this kind (requiring accounts to be carried so as to collect the data) is of help in showing the great importance of the breakeven volume, and the possible desirability of paying a higher variable cost (for example, sales commissions) to get the business *beyond* this point.

Effects of Various Changes on Profits (Exhibits 6 a to 6 g)

These exhibits are designed to show the type of everyday information about costs the management asks for and many times cannot get from its cost systems. A clear segregation of variable and fixed costs is a prerequisite.

An everyday business problem is how the situation would be affected by:

- a. Change in volume
- b. Change in selling price
- c. Change in direct costs of production
- d. Change in fixed costs
- e. A combination of changes

The cost system must provide the data for computation of these "alternative costs." If it does not, it has not performed its full function.

EXHIBIT 6 a

KNOWING THE MARGINAL INCOME* (DIFFERENCE BETWEEN GROSS INCOME AND CONSTANTLY VARIABLE COST) WHAT IS THE EFFECT OF—

- (a) Increase or decrease in volume (assume variable cost 72¢)?

| | <i>Base (\$000 Omitted)</i> | <i>Increase 25%</i> | <i>Increase 50%</i> | <i>Decrease 25%</i> |
|--------------------------|---------------------------------|-------------------------|-------------------------|-------------------------|
| Sales ¹ | 400 | 500 | 600 | 300 |
| Variable Cost | 288 | 360 | 432 | 216 |
| | 112 | 140 | 168 | 84 |
| Fixed Cost | 84 | 84 | 84 | 84 |
| Profit | 28 | 56 | 84 | 0 |
| | | | | |

* Term used by G. Charter Harrison to describe recovery resulting from sales less variable costs of such sales—i.e., the amount available for payment of fixed costs and for profit. The marginal income ratio is the percentage of income available for this purpose.

¹ Questions of maintenance of price levels at varying volumes are not ignored but are not considered pertinent to the cost study although probably of decisive influence in final determination of policy.

EXHIBIT 6 a-1

KNOWING THE MARGINAL INCOME (DIFFERENCE BETWEEN GROSS INCOME AND CONSTANTLY VARIABLE COST) WHAT IS THE REASON—

- (a-1) A competitor with a heavier proportion of fixed cost may have a different view of desirability of more or less volume? Assume his *Variable Cost* is 60¢ instead of 72¢.

| | <i>Base (\$000 Omitted)</i> | <i>Increase 25%</i> | <i>Increase 50%</i> | <i>Decrease 25%</i> |
|---------------------|---------------------------------|-------------------------|-------------------------|-------------------------|
| Sales | 400 | 500 | 600 | 300 |
| Variable Cost | 240 | 300 | 360 | 180 |
| | 160 | 200 | 240 | 120 |
| Fixed Cost | 132 | 132 | 132 | 132 |
| Profit | 28 | 68 | 108 | (L) 12 |
| | | | | |

Note: Greater fixed costs make question of "what volume is minimum" more vital.

EXHIBIT 6b

KNOWING THE MARGINAL INCOME (DIFFERENCE BETWEEN GROSS INCOME AND CONSTANTLY VARIABLE COST) WHAT IS THE EFFECT OF—

(b) Increase or decrease in the sales price?

| | <i>Base (\$000 omitted)</i> | <i>10% +</i> | <i>10% -</i> |
|--------------------|---------------------------------|--------------|--------------|
| Sales ¹ | 400 | 440 | 360 |
| Variable Cost | 288 | 288 | 288 |
| | 112 | 152 | 72 |
| Fixed Cost | 84 | 84 | 84 |
| Profit | 28 | 68 | (L) 12 |
| | <hr/> | <hr/> | <hr/> |

(*) This is the corrective of the volume chart where price levels are sensitive.

EXHIBIT 6c

KNOWING THE MARGINAL INCOME (DIFFERENCE BETWEEN GROSS INCOME AND CONSTANTLY VARIABLE COST) WHAT IS THE EFFECT OF—

(c) Increase or decrease in variable cost?

| | <i>Base Variable Cost 72¢ (\$000 omitted)</i> | <i>-5% Variable Cost 68.4¢</i> | <i>+5% Variable Cost 75.6¢</i> |
|---------------|---|--|--|
| Sales | 400 | 400 | 400 |
| Variable Cost | 288 | 274 | 302 |
| | 112 | 126 | 98 |
| Fixed Cost | 84 | 84 | 84 |
| Profit | 28 | 42 | 14 |
| | <hr/> | <hr/> | <hr/> |

EXHIBIT 6d

KNOWING THE MARGINAL INCOME (DIFFERENCE BETWEEN GROSS INCOME AND CONSTANTLY VARIABLE COST) WHAT IS THE EFFECT OF—

(d) Increase or decrease in fixed cost?

| | <i>Base (\$000 omitted)</i> | <i>-5%</i> | <i>+5%</i> |
|---------------|---------------------------------|------------|------------|
| Sales | 400 | 400 | 400 |
| Variable Cost | 288 | 288 | 288 |
| | 112 | 112 | 112 |
| Fixed Cost | 84 | 80 | 88 |
| Profit | 28 | 32 | 23 |
| | <hr/> | <hr/> | <hr/> |

EXHIBIT 6 e

- (e) Assuming it is desired to increase profit 100%, this table shows how it might be obtained by concentration on each one of the four factors affecting profit singly.

| | <i>Base (\$000 omitted)</i> | <i>Volume V+25%</i> | <i>Price P+7%</i> | <i>Var. Cost V-10%</i> | <i>Fixed Cost F.E —33 1/3 %</i> |
|------------------|---------------------------------|-------------------------|-----------------------|----------------------------|-------------------------------------|
| Sales | 400 | 500 | 428 | 400 | 400 |
| Var. Cost | 288 | 360 | 288 | 260 | 288 |
| | 112 | 140 | 140 | 140 | 112 |
| Fixed Cost | 84 | 84 | 84 | 84 | 56 |
| Profit | 28 | 56 | 56 | 56 | 56 |
| | <hr/> | <hr/> | <hr/> | <hr/> | <hr/> |

EXHIBIT 6 f

- (f) As a practical matter some adjustment might be made in all four factors.
Let us suppose:

1. Volume of \$20 M eliminated on line sold 10% below variable cost.
2. Volume of \$100 M affected by a price increase of 10%.
3. Variable costs of all lines now to be sold reduced 5%.
4. Fixed costs reduced \$3,000.

| | <i>Base</i> | <i>Vol. —20M</i> | <i>Price +10M</i> | <i>Variable Cost</i> | <i>Fixed Cost</i> | <i>Profit</i> |
|------------------|-------------|----------------------|-----------------------|--------------------------|-----------------------|---------------|
| Sales | 400 | 380 | 390 | —22M —5% | —3M | |
| Var. Cost | 288 | — | — | 253 | | |
| | 112 | — | — | 137 | | |
| Fixed Cost | 84 | | | | 81 | |
| | 28 | | | | | <hr/> |
| | <hr/> | | | | | <hr/> |

EXHIBIT 6 g

Formula

$$\text{Profit} = \text{Sales} - \text{Variable Costs} - \text{Fixed Cost}$$

$$P = S - V - F$$

$$S = U_p \quad (\text{units} \times \text{price})$$

$$V = U_v c \quad (\text{units} \times \text{variable cost})$$

$$F = \text{fixed amount in dollars}$$

- (a) To find breakeven point (U is unknown) substitute zero for P .
- (b) Increase or decrease of fixed cost directly affects profit Substitute new value for F and zero for P to get new breakeven point.
- (c) To find effect on P of increase or decrease in volume of sales substitute new values for " U " in " U_p " and " $U_v c$ ".
- (d) To find effect on P of change in sales price substitute new value for " p " in " U_p ". Substitute zero for P to compute new breakeven point.
- (e) To find effect on P of change in variable costs substitute new value for " $v c$ " in " $U_v c$ ". Substitute zero for P to compute new Breakeven point.

Note: Based on material of G. Charter Harrison

Differential Cost Study Illustrated (Exhibit 7)

The failure of the cost system to disclose "alternative costs" or differential costs, and to show only a single cost for all units from the first to last one constituting normal capacity, make it difficult to extract the information necessary for the management to determine policy as to

1. Volume

To increase, decrease or shut down.

2. Price

To take business at a "special" price.

To risk a decline in price of total sales.

To sacrifice volume for price.

Such cost studies, while they may not be cost *accounting*, are a function of the controller.

They will be of vital importance in computing costs of unusual orders, in figuring the effect of two-shift operation, in setting prices which will control the amount subject to excess and war profits taxes, and in quoting fair prices on government defense orders.

OVERHEAD APPLICATION

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EXHIBIT 7

DIFFERENTIAL COST STUDIES FOR DETERMINATION OF POLICY AS TO VOLUME, PRICE, AND TAKING OR REFUSING BUSINESS AT SPECIAL PRICES

| <i>Items Summarized from Detailed Works Sheets:</i> | <i>No Production Ready to Start</i> | <i>of 60% Capacity</i> | <i>of 80% Capacity</i> | <i>of 100% Capacity</i> | <i>of Capacity</i> | <i>120% Requiring Add'l Facilities</i> |
|--|-------------------------------------|------------------------|------------------------|-------------------------|--------------------|--|
| Fixed Costs: | \$ \$ | \$ \$ | \$ \$ | \$ \$ | \$ \$ | \$ \$ |
| Depreciation (time basis) .. | 15,000.00 | 15,000.00 | 15,000.00 | 15,000.00 | 15,000.00 | 28,000.00 |
| Insurance, property taxes, etc. | 15,000.00 | 15,000.00 | 15,000.00 | 15,000.00 | 15,000.00 | 28,000.00 |
| General management | 20,000.00 | 20,000.00 | 20,000.00 | 20,000.00 | 20,000.00 | 20,000.00 |
| Sales management | 15,000.00 | 15,000.00 | 15,000.00 | 15,000.00 | 15,000.00 | 18,000.00 |
| Factory management | 15,000.00 | 15,000.00 | 15,000.00 | 15,000.00 | 15,000.00 | 18,000.00 |
| Warehouse management .. | 10,000.00 | 10,000.00 | 10,000.00 | 10,000.00 | 10,000.00 | 12,000.00 |
| | 90,000.00 | 90,000.00 | 90,000.00 | 90,000.00 | 90,000.00 | 124,000.00 |
| VARIABLE Costs: | | | | | | |
| Material | | | | | | |
| Labor (Incl. Social Security Workmen's Compensation, etc.) | 6,000.00 | 8,000.00 | 10,000.00 | 12,000.00 | | |
| Variable factory direct costs | 6,000.00 | 8,000.00 | 10,000.00 | 12,000.00 | 12,000.00 | 12,000.00 |
| Variable wage, direct costs | 9,000.00 | 12,000.00 | 15,000.00 | 18,000.00 | 18,000.00 | 18,000.00 |
| Variable sales direct costs | 1,800.00 | 2,400.00 | 3,000.00 | 3,600.00 | 3,600.00 | 3,600.00 |
| Variable sales direct costs | 3,000.00 | 4,000.00 | 5,000.00 | 6,000.00 | 6,000.00 | 6,000.00 |
| Variable mgmt. direct cost | 1,200.00 | 1,600.00 | 2,000.00 | 2,400.00 | 2,400.00 | 2,400.00 |
| | 27,000.00 | 36,000.00 | 45,000.00 | 54,000.00 | | |
| Total Costs | 90,000.00 | 117,000.00 | 126,000.00 | 135,000.00 | | |
| INTEREST ON INVESTMENT (Add if pertinent) | | | | | | |
| Additional Units Produced DIFFERENTIAL COST OF ADDED UNITS | 600 | 45.00 | 200 | 45.00 | 45.00 | 215.00 |
| TOTAL UNITS PRODUCED | 0 | 600 | 195.00 | 800 | 157.50 | 135.00 |
| AVERAGE COST PER UNIT | | | | | | 148.33 |
| WEIGHTED AVERAGE OF COSTS PER UNIT AT EACH POINT | | | | | | 170.97 |

Note: Adapted from p. 185, *Studies of the Economics of Overhead Costs* (1923). J. Maurice Clark.

¹ As a practical matter variable costs at both the 60% and 120% levels would be different from those at 80% and 100%.

Possible Errors in Applying Distribution Costs (Exhibit 8)

This exhibit is designed to show the possibility of error in making decisions—

1. Where cost accounting methods are not applied to distribution costs.
2. When the cost system fails to reveal the "differential" cost of the line; or in other words, fails to reveal the "fixed cost" that is included in the cost of the product but which will not cease even if the product is discontinued.

EXHIBIT 8

APPLICATION OF DIFFERENTIAL COSTS TO STUDY OF PROFIT BY LINES
OF PRODUCT OR CLASS OF ACCOUNTS

- A. Computed with distribution costs allocated as a percentage on the dollar of sales.

| <i>Line</i> | <i>Volume</i> | <i>Distribution</i> | | |
|-------------|---------------|---------------------|-------|---------|
| | \$ | \$ | \$ | \$ |
| A | 15,000 | 6,000 | 1,500 | G 4,500 |
| B | 10,000 | 3,000 | 1,000 | G 2,000 |
| C | 75,000 | 11,000 | 7,500 | G 3,500 |

- B. Computed with distribution costs allocated by cost accounting methods—order filling costs per order—clerical costs per order—selling costs per order or customer—etc.

| <i>Line</i> | <i>Volume</i> | <i>Distribution</i> | | |
|-------------|---------------|---------------------|-------|---------|
| | \$ | \$ | \$ | \$ |
| A | 15,000 | 6,000 | 3,500 | G 2,500 |
| B | 10,000 | 3,000 | 3,500 | L 500 |
| C | 75,000 | 11,000 | 3,000 | G 8,000 |

Schedule A shows discontinuance of line B would result in foregoing a profit of \$2,000 net.

Schedule B shows discontinuance of line B would result in the elimination of a loss of \$500 net.

Either conclusion is in error.

To determine true effect on the business of eliminating line B, it is essential to consider the differential cost of the line and its contribution to fixed costs.

C.

| <i>Line</i> | <i>Volume</i> | <i>Direct Costs</i> | | <i>Marginal Income</i> |
|------------------|---------------|---------------------|-----------------|------------------------|
| | | <i>Mfg.</i> | <i>Distrib.</i> | |
| A | 15,000 | 8,000 | 3,500 | 3,500 |
| B | 10,000 | 4,000 | 3,500 | 2,500 |
| C | 75,000 | 48,000 | 3,000 | 24,000 |
| | | | | <u>30,000</u> |
| Less Fixed Costs | | | | <u>20,000</u> |
| Net Profit | | | | <u>10,000</u> |

If line B is discontinued:

| | <i>A</i> \$ | <i>B</i> \$ | <i>Total</i> \$ |
|---------------------------------------|----------------|----------------|--------------------|
| Sales | 15,000 | 75,000 | 90,000 |
| Variable Costs | 11,500 | 51,000 | 62,500 |
| | | | <u>27,500</u> |
| Fixed Costs | | | 20,000 |
| Net Profit | | | <u>\$7,500</u> |
| <i>Loss due to eliminating line B</i> | | | <i>\$2,500</i> |

Note: Instead of spreading Fixed Cost on the basis evidently used:

| | <i>A</i> \$ | <i>B</i> \$ | <i>C</i> \$ |
|-----------------------|----------------|----------------|----------------|
| 1. Marginal Income | 3,500 | 2,500 | 24,000 |
| Fixed Cost Allocation | 1,000 | 3,000 | 16,000 |
| Net | <u>G 2,500</u> | <u>L —500</u> | <u>G 8,000</u> |

it could be figured that C, the basic product, should stand all fixed costs:

| | <i>A</i> \$ | <i>B</i> \$ | <i>C</i> \$ |
|-----------------------|----------------|----------------|----------------|
| 2. Marginal Income | 3,500 | 2,500 | 24,000 |
| Fixed Cost Allocation | — | — | 20,000 |
| Net | <u>3,500</u> | <u>2,500</u> | <u>4,000</u> |

or that any recovery above direct cost on A and B should go to reduce fixed cost charge against C:

| | <i>A</i> \$ | <i>B</i> \$ | <i>C</i> \$ |
|-----------------------|----------------|----------------|----------------|
| 3. Marginal Income | 3,500 | 2,500 | 24,000 |
| Fixed Cost Allocation | 3,500 | 2,500 | 14,000 |
| Net | <u>0</u> | <u>0</u> | <u>10,000</u> |

From the cost viewpoint, if discontinuance of line B does not reduce fixed costs, it can be sold profitably for anything above the differential cost of producing it.

Cost Related to Selling Price (Exhibit 9)

I have included Stewart Freeman's chart reprinted from the 1939 Year Book because I think it shows clearly the proper approach to the ascertainment of "differential costs" under different conditions, and their use as a determinant of minimum sales prices.

The old question of whether or not you should sell below cost seems to settle down to this:

1. What "cost" do you mean?

The businessman has always realized that "differential cost" (what he calls "out-of-pocket cost") is the danger point, but his cost system does not always show him where this is.

2. In any event cost is only one determinant of selling price and not necessarily controlling.

**HOW SELLING PRICES SHOULD BE RELATED TO COSTS
UNDER VARIOUS CONDITIONS**

(Shaded portions represent costs to be covered by net collectable selling price)

| CLASS OF COST | ORDERS CUSTOMERS - SHORTER PLATE | | | | | | ORDERS = LONGER PLATE | | | | | |
|---|--|--|--|--|--|--|--|--|--|--|--|--|
| | When Factory Capacity exceeds selling capacity | When Factory & Selling Capacities Balance | When Selling capacity exceeds Factory capacity | When Selling capacity exceeds Factory capacity | When Factory capacity exceeds selling capacity | When Factory & Selling Capacities Balance | Very Good Order | Good Order | Bad Order | Fro- zen Orchid | Weak Bro- ther | Weak Sister |
| | Every Average Order | Average Order | Average Order | Average Order | Every Order | Average Order | (5) | (6) | (7) | (10) | (9) | (8) |
| Compensation for research, invention &/or maximal efficiency. | Get back at least shaded costs and as much more as can compensate for use of tangible capital. | Get back at least shaded costs and as much more as can compensate for use of tangible capital. | Use limited factory capacity for most profitable business | In Direct effect, auction sales machine hours to highest accord- bidders | For- der | o.k. | Study now to prove it | Im- prove pro- fit- able slate | 1% for elin- ation | 1% | 1% | 1% |
| Providing the Capital | Recovery in prosperity of losses in depression | Recovery in prosperity of losses in depression | Recovery in prosperity of losses in depression | Recovery in prosperity of losses in depression | Recovery in prosperity of losses in depression | Recovery in prosperity of losses in depression | Recovery in prosperity of losses in depression | Recovery in prosperity of losses in depression | Recovery in prosperity of losses in depression | Recovery in prosperity of losses in depression | Recovery in prosperity of losses in depression | Recovery in prosperity of losses in depression |
| Soliciting Sales Contracts (Order Getting) | Customer Calls or Sales Marginal Products Sold in Salesmen's Combination | Customer Calls on Marginal Customers Products Specialized by Product | Customer Calls on Marginal Products Sold in Salesmen's Combination | Customer Calls on Marginal Products Specialized by Product | Customer Calls on Marginal Products Sold in Salesmen's Combination | Customer Calls on Marginal Products Specialized by Product | Customer Calls on Marginal Products Sold in Salesmen's Combination | Customer Calls on Marginal Products Specialized by Product | Customer Calls on Marginal Products Sold in Salesmen's Combination | Customer Calls on Marginal Products Specialized by Product | Customer Calls on Marginal Products Sold in Salesmen's Combination | Customer Calls on Marginal Products Specialized by Product |
| Executive Sales Contracts | Order Selling Cost | Slowly Variable by Reorganisation | Quickly Variable by Reorganisation | Slowly Variable by Reorganisation | Quickly Variable by Reorganisation | Slowly Variable by Reorganisation | Quickly Variable by Reorganisation | Slowly Variable by Reorganisation | Quickly Variable by Reorganisation | Slowly Variable by Reorganisation | Quickly Variable by Reorganisation | Slowly Variable by Reorganisation |
| | Factory Indirect Cost | Direct Labor | Direct Material | Factory Indirect Cost | Direct Labor | Factory Indirect Cost | Direct Labor | Factory Indirect Cost | Direct Labor | Factory Indirect Cost | Direct Labor | Factory Indirect Cost |

Controller's Breakdown of Profit and Loss Statement (Exhibit 10)

While for many purposes a profit and loss statement may be condensed or may combine series of figures, it is essential for at least one form of profit and loss statement to show the constituents of the total reported as net profit or loss for the month. This exhibit is suggested as a form of profit and loss statement which will fully disclose the factors that entered into the measurement of profit or loss which resulted in the elapsed period.

Section 1: Profit from Completed Sales:

Note that standard cost is corrected for variances which are properly a necessary adjustment of standard cost to actual cost.

Section 2: Controllable Cost Variances:

The proper treatment and disclosure of variance have been discussed and a suitable form is shown in the *Bulletin* of February 15, 1936 by William A. Sleeper of Stone & Webster. It seems advisable to show the full amount of each of the separate variances and its disposition as to cost of sales, inventory, reserve, or direct charge to profit and loss.

Section 3: Effect on Profit and Loss of Inventory Changes in the Period:

This section tries to meet the objection to the distortion of the profit and loss statement because of inventory fluctuation. It shows, first, the profit arising solely from completed sales transaction (\$35,000 loss—\$109,000 gain, respectively (F)) and then the profit and loss as usually shown at this point after giving effect to the amount of fixed costs taken up into inventory (G). This gives a better picture of the result of current sales activity; it keeps a relationship between sales and profits that is not distorted; and shows clearly the amount that has been temporarily set aside to reduce profits of future periods.

It is not difficult to determine the amount of fixed overhead included in inventory in the month if the cost accounts are set up to do it; but to compute the amount of fixed overhead in the cost of goods sold is more difficult though in many cases attainable with substantial accuracy.

Section 4:

The setting out of idle capacity losses as a separate item requires no comment.

EXHIBIT 10
CONTROLLER'S BREAKDOWN OF PROFIT & LOSS STATEMENT TO REFLECT DISTINCTLY THE SOURCES FROM WHICH ARISES THE NET
UNDER CONVENTIONAL FINANCIAL AND STANDARD COST ACCOUNTING METHODS

| | Month of May 1940 | Year to Date | |
|---|----------------------|-------------------------------|-----------|
| | \$ | \$ | \$ |
| | (Units 3,000,000) | \$ | |
| 1. PROFIT FROM COMPLETED SALES: | | | |
| Sales—500,000 units | 600,000 | 3,600,000 | |
| Standard Cost Standard Gross Profit | 500,000 100,000 | 3,000,000 38,000 | |
| Adjustment of Gross Profit ... (See below) | 5,000 | 600,000 | |
| Actual Gross Profit | 95,000 | 562,000 | |
| Cost of Distribution: | | | |
| Selling Expense: | | | |
| Standard fixed | 35,000 | 35,000 | |
| Standard allowance 500,000 @ 5¢ | 25,000 | 25,000 | |
| 60,000 | 62,000 | 62,000 | |
| Actual Expense | 62,000 | 62,000 | |
| Administrative Expense: | | | |
| Standard fixed (A) | 28,000 | 28,000 | |
| Actual | 29,000 | 1,000 | |
| Net: | — | — | — |
| | G | G | G |
| 2. PROFIT OR LOSS FROM MFG. EFFICIENCIES & CONTROLLABLE COSTS: | | | |
| Actual cost of production | 610,000 | Carried to Cost of Sales | 2,429,000 |
| Standard cost of production | 600,000 | Retained as Inventory Reserve | 2,400,000 |
| Excess broken down: | 10,000 L | — | 29,000 L |
| Matl. price variance (B) | 4,000 L | — | 26,000 L |
| Labor rate variance (B) | 2,000 L | — | 8,000 L |
| Variable direct overhead rate variance (B) | 0 | — | 5,000 L |
| Sub-total | 6,000 L | 5,000 L | 39,000 L |
| Matl. usage variance | 1,000 L | 1,000 DR | 4,000 G |
| Labor usage variance | 2,000 L | 0 | 4,000 G |
| | L | DR | G |
| | 38,000 L | 1,000 DR | 0 |
| | L | DR | G |

| | | | | | | | | | | | | | |
|---|----------|--|--|--|--|--|--|--|--|--|--|--|--|
| Variable direct overhead usage variance | 1,000 L | | | | | | | | | | | | |
| Sub-total | 4,000 L | | | | | | | | | | | | |
| Total | 10,000 L | | | | | | | | | | | | |
| Standard fixed expense | 180,000 | | | | | | | | | | | | |
| Actual fixed expense | 185,000 | | | | | | | | | | | | |
| Net: | | | | | | | | | | | | | |
| 3. Profit or Loss Arising from Enhancement in Value of Inventory Due to Inclusion of Fixed Costs in Goods Manufactured and Not Yet Sold | | | | | | | | | | | | | |
| Standard fixed costs | | | | | | | | | | | | | |
| Amount recovered in current cost of sales (C) | | | | | | | | | | | | | |
| Chge. off, ignoring value added to inventory | | | | | | | | | | | | | |
| Profit or Loss at Current Sales Level (F) | | | | | | | | | | | | | |
| Std. fixed costs chgd. into inventory by production | | | | | | | | | | | | | |
| Std. fixed costs taken out of inventory by sales | | | | | | | | | | | | | |
| Credit to profit & loss due to increase in inventory value | | | | | | | | | | | | | |
| Debit for addition to cost of sales of previously capitalized overhead if inventory reduced | | | | | | | | | | | | | |
| Net (as initially shown) (G) | | | | | | | | | | | | | |
| 4. Profit or Loss from Utilization of Capacity: | | | | | | | | | | | | | |
| Standard fixed costs Absorbed at std. rate (D) | | | | | | | | | | | | | |
| 5 OTHER INCOME & EXPENSE: (detail) | | | | | | | | | | | | | |
| 6. NET PROFIT BEFORE TAXES: | | | | | | | | | | | | | |

(A) Variable Administrative Exp.: No allowance between \$5,000,000 and \$8,400,000 sales level.
 (B) Denotes unavoidable increase in costs not yet reflected in standards and a charge to INVENTORY and to COST OF SALES when sold.

(C) May be difficult to ascertain and require ratios of fixed expense included in standard inventory cost.
 (D) Here treated as charged off currently
 (E) Included in cost of sales above because in inventory value 12/31/39.

Conclusion

The influences that are forcing the controller to a most careful study of the different cost concepts required for the presentation of "information about costs" are many.

First is the demand of business management which, in its search for the answer to problems of economic progress, cannot be served by a single concept of cost.

Then we have the needs of the financial accountant and the independent auditor, reinforced by the Securities Exchange Commission, vitally interested in the effect of cost concepts on the valuation of inventory, and a correct statement of earnings and amounts available for dividends.

Government regulation of business raises new issues, in which connection I recommend that you read Professor Taggart's book *The Cost Principle in Minimum Price Regulation*. These regulations vary in their purpose from "setting a floor for prices" to establishing a minimum "overall cost of doing business" price, as in the State Unfair Trade Acts.

Mr. Russell, in his address yesterday, pointed out that "cost" has another meaning in Government contracts coming under the Vinson Act.

Then we have the Internal Revenue Act which, while not entirely specific, lays down a concept of cost for valuing inventories produced by the taxpayer that includes indirect expenses with a proper allocation of management expenses; but not any selling expense, interest on investment, or profits.

To conclude, may we agree that:

Cost is not an absolute.

Cost accounting does not consist of a set of rules universally recognized and universally applicable.

Costs of whatever type are the particular métier of the controller and his cost department. It is his job to supply information about costs to all who need it, prepared in conformity with the applicable concept of cost, and with sufficient disclosure of principles and detail to avoid misleading. To do this, he must be willing to extend cost data and even cost control operations beyond the confines established by the tie-in with financial accounting. In this he should be assisted by a standing committee of the N.A.C.A. on "Cost Terminology and Definitions."

The controller and his cost department may very well then take the place in business affairs so well described by Dr. Edwin G. Nourse, Director, Institute of Economics, Brookings Institution (1939 N.A.C.A. Year Book):

Where the information about costs gives not only a discriminating picture of the cost situation actually realized but also an analytical projection of the problems into alternative paths of production and price policy, he becomes a constructive partner in the process by which business operations are not merely stabilized, but, in addition, are brought to the closest possible approximation of that dynamic balance which is the essence of economic progress.

CHAIRMAN HIMMELBLAU: Thank you, Mr. Howell.

Our second speaker this morning is Arthur Chubbuck. His topic is "Reflecting Activity in Overhead Distribution," and instead of a formal paper, such as we have just listened to, he will give us a case study along those lines.

REFLECTING ACTIVITY IN OVERHEAD DISTRIBUTION

ARTHUR C. CHUBBUCK

Staff, Patterson, Teele & Dennis,
Boston, Mass.

IN RESPONSE to Professor Himmelblau's letter inviting me to speak on this subject, I replied that at the moment I could think of nothing new on the subject and that undoubtedly the morning I was due to talk would find me no less barren. I suggested, however, that following Harry Howell on the program, as Professor Himmelblau's letter indicated I would, it would make scant difference what I said for the audience would still be digesting the mental feast which he would provide.

Harry Howell in the past forty-five minutes has proven conclusively the accuracy of about one-half of my prophecy. I promise that during the next forty-five minutes I shall experience no difficulty in convincing you of the accuracy of the other half. If you will discount my promise, then I shall have established a transient reputation for about 100 per cent accuracy in prophecy upon which I shall

rest in so far as the considerable element of prophecy suggested by the subject assigned for this period is concerned, and if the way becomes difficult I shall probably resort to the accountant's conventional defenses of conservatism and practicability.

Definition of Terms

As has been announced in the program, it is contemplated that this period of the morning's program will be devoted to the matter of determination of normal overhead rates and the disposition of the by-products thereof, viz., overabsorbed and underabsorbed burden.

Broadly and with relative brevity, normal overhead rates are devices of some antiquity which have evolved since the beginning of the industrial revolution, some two centuries ago, as a result of the desire by economists, business men and accountants for some equitable means, with regard to the use and life-span of facilities related to industry, of including in the cost of goods a fair proportion of those comparatively long-term cost factors which are associated with a plant and an organization "ready to go"—broadly, fixed costs. In theory, overabsorbed burden and underabsorbed burden represent, respectively, the amount by which the provision for such long term costs which has been included in the cost of goods, is more than or less than the proportion of such costs considered to be applicable to a relatively short period of time. In practice, however, overabsorbed and underabsorbed burden amounts comprise other factors.

Practices in Determination of Overhead Rates

As has been indicated very clearly by Dr. Marple's competent surveys in this and related connections, there are a variety of practices, all of which, or at least most of which, presumably can be supported as practical and effective solutions of the problems by the companies who employ them for purposes of cost control and determination and for financial statement preparation.

I personally believe, generally speaking, that normal overhead rates should be determined upon the basis of a company's demonstrated and reasonably anticipated ability to produce and sell. However, there are companies which base their normal overhead rates upon ability to produce only, that are quite as intelligently managed and successful as those which reflect in such rates both ability to produce

and sell. In either case, the matter of prices, the valuation of inventories and the consideration of what to do in order to utilize short-term or long-term unused plant can be studied and acted upon with equal intelligence.

Treatment of Over- and Under-Absorbed Balances

I am of the opinion that, generally speaking, to be consistent, overabsorbed and underabsorbed expenses should be balanced against each other over a period of years for purposes of annual statements as well as for monthly statements. I recognize, however, that there may be certain practical objections to doing so, and therefore, generally, I am inclined to think of these amounts at year-end in connection with an equitable application to and adjustment of standard operating results and inventory. However, there are companies, as indicated by Dr. Marple's survey, which dispose of such amounts of overabsorbed and underabsorbed burden in their entirety either as direct charges or credits to profit and loss or as adjustments of the cost of sales, which has substantially the same effect. If, in connection with such treatment of overabsorbed burden, there are no offsetting factors, then it seems to me that it would be held by many accountants, that by relation to cost, inventories would be overvalued and profits overstated. Such, however, might not be the case.

The term "cost," as we all know, is not the same thing for all purposes. Indeed, in certain circumstances, a normal level of operation has no connection with the term. However, if the significance of cost and the various factors, elements or components of it and the bases for their determination are all understood by those who are responsible for cost interpretation or who have occasion to make use of costs in any given connection, then it does not appear to me to be of great importance, within certain limits recognized by all accountants, what the method of application of such knowledge may be.

The Case Study Approach

In any given problem of industrial cost accounting such as the one assigned us this morning, it is interesting to me, having first considered some of its aspects, to take the case of a company which has withstood for many years the ups and downs of industrial and economic existence—and I believe progress—to examine what it has

done in the past in connection with our particular problem, and if possible, examine its contemplated action in that connection, particularly in the face of somewhat unusual circumstances. It is found oftentimes that decision in respect of the particular problem has been affected by the decisions necessary in other problems also arising out of the same unusual circumstances, although the other problems may not be directly related to the one at hand. Oftentimes, too, because of the relative importance of other problems, we find that the problem in which our particular interest lies has been so subordinated as to have the appearance of having been almost completely overlooked. There is, however, I believe, a certain advantage in such an approach to what we as accountants oftentimes assume to be major problems. We thereby obtain a perspective of our problem from the point of view of general business management whose interests we have elected to serve, and such perspective is necessary after we have developed to the best of our ability the sound theoretical answers to the problems with which we are frequently confronted.

All of that being of interest to me, I have assumed that others here this morning might be interested in the same sort of thing. Therefore, I have selected a case at random from a certain group of long-lived companies engaged in that industry which is frequently called the bottle-neck of the present industrial situation, the machine tool industry. That case is now presented without adornment.

The Company and Industry

The case which has been chosen to reduce some of the abstract principles connected with normal rate determination to concrete form is, in its pertinent particulars, presented in the exhibits on pages 213 and 218, without material change from actual conditions. Its treatment of certain conditions arising from overhead distribution is somewhat unusual and for that reason may be stimulating.

The company whose case we are to consider was founded over one hundred years ago for the purpose of building machine tools, lathes and similar machines. Like all companies in a similar line of work, its volume of business varies widely, as will be noticed from the graph of its sales for the period from 1919 to 1940 (the latter year's volume is estimated, of course). Not surprisingly, the variations in its volume of business follow very closely the index of the industry. Because of such wide variations in volume, the business of a machine

tool builder such as our case company offers an interesting foundation for the study of the determination and application of normal rates, particularly under business conditions which currently prevail.

A machine tool builder's sales are dependent upon general business conditions together with the factors of age and degree of obsolescence of machines in the hands of manufacturers, which, in turn, depend upon the speed of development of newer and better machines in relation to the ability of manufacturers to buy them. Of course, war conditions or preparations for defense abnormally expand the demand for machine tools. However, over a period of years which may be taken as a cycle, it is estimated that in relation to single-shift, practical-operating capacity the industry has operated at an average level which may be from 50 per cent to 65 per cent, probably with 60 per cent to 65 per cent most frequently spoken of in that connection. While the wages of capital, at least identifiable as such, at this normal level of operation are not overly attractive, yet generally speaking, it may be said that, of necessity, the industry's fixed charges permit profitable operation at such level. As is apparent in the present emergency situation, the industry is loath to expand on its own capital because of fear engendered by experience as to what may happen when the emergency passes.

Some idea of the huge potential demand for machine tools and machinery may be gained from the reference in Brookings Institution's new book *Capital Expansion, Employment and Economic Stability* to the probable cost of putting the United States productive plants in first class condition. Sixty-one per cent of our industrial machinery in 1937 was more than ten years old as compared to 44 per cent in 1925; less than 5 per cent of the locomotives in use at the end of 1938 were modern and 52 per cent were over twenty-four years old; and more than 60 per cent of the steam capacity of power plants will need replacement or rebuilding within a few years. When this potential business will take the form of orders on the books depends upon the availability of means for capital expenditures, but it is nevertheless a factor for consideration in forecasting volume and in the determination of normal utilization of available capacity.

Previous Practice

For many years the company followed the practice of including manufacturing overhead in costs on the basis of allowing each year

to stand on its own feet, and of absorbing expenses during the year according to the previously estimated volume and related manufacturing expenses and pricing end-of-year inventories of finished product manufactured during the year on the same basis, of course, limited in some cases by what net realizable value might be. It is my impression that prior to the 1930-1934 period this was the general practice in the industry.

However, our case company recognized that such was not the best possible practice, whatever might be the slight advantage tax-wise, and set about not only to remedy the situation in this respect, but also to provide means for the measurement of its product costs in the light of fair standards, although it still wished to continue its job costs and also to continue paying employees on an hourly basis rather than on a piece-rate or incentive basis.

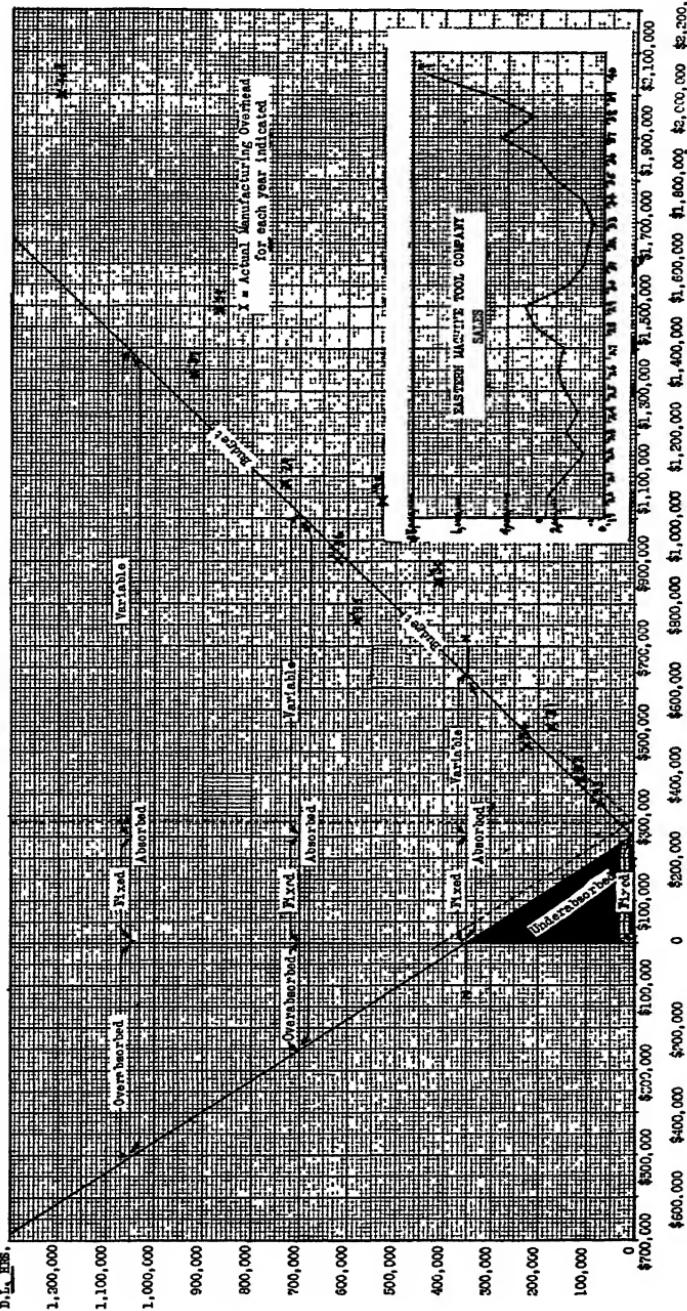
Over-all Flexible Budget Developed

The company consequently began with the development of an over-all flexible budget (which is presented both graphically and in tabular form in the exhibits), so that for each level of probable operation, its overhead and the principal factors in it might be reasonably forecasted. At the time of undertaking such study, the company had already experienced the low level of operation in 1932 and was experiencing the even lower level of operation which prevailed in 1933, so that very real appreciation existed of the necessity for a point of balance between economy on the one hand, and the continuance of experimental and developmental work and of the nucleus of a competent organization on the other hand, which would enable the company to live and hold its competitive position when the depression ended—as at least all previous ones had. The 1932-1933 level of operation, if such it could be called, seemed to offer an economical and fair low point for the development of the desired budget. As another and higher level of operation for the flexible budget development, various years were considered, but it was finally decided that the year 1929 was generally the most equitable one because, as a result of the press of orders during that year, following several years of successively increased volume, there had been scant opportunity for any delay in the performance of tasks and it was generally considered, after analysis of the related expenses, that there had been relatively little of the waste which oftentimes accompanies prosperity. However, it was

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MANUFACTURING OVERHEAD



observed, among other things, that there had been some delay in making necessary and relatively long-term repairs and that also the payment of salaries during that year reflected recognition of efforts during certain of the prior years. Adjustment of these factors resulted in a slight reduction of the budget for the level of operation which prevailed during 1929 without, however, reducing the amounts of the individual expenses over a period of years. Another point considered was the probable composition of the direct labor hours over the period of the hoped-for recovery by comparison with the direct labor hours of 1929 and 1933, so that increases or decreases in machine time by comparison with assembly time, if important, might be reflected in the related expenses.

The two fair over-all budgets for two different levels of operation having been determined, as briefly outlined, the net results were plotted tentatively in a manner similar to that indicated by the graphic chart on page 213, and the line thereon identified as the budget line. Thus the tentative over-all picture was painted as to the probable and fair cost of overhead for each level of operation with the cost of the fixed overhead for the year and the variable overhead for each direct labor hour.

Flexible Budgets for Cost Centers and Service Centers

From this point the company proceeded to amplify its analysis and to consider the development of flexible budgets for each group of machines or other operations considered as cost centers, as well as for the service centers, such as power and repairs. In this connection, quite naturally, much closer attention than in the over-all budget was paid to the variations in budgetary provision arising from necessary supervision and indirect labor which obviously does not vary sharply with the level of operation, but may increase relatively slowly with speeded operation and decrease even more slowly with retarded operation. For the purpose of uncovering these and other variations from straight-line variation with volume of activity, several budgets at varying levels of operation within the possible one-, two- and three-shift range, were developed and also plotted. As was natural, of course, the larger the department and the more people engaged therein, the closer to a straight line was the variation at different levels.

Incidental to the study, as generally happens, many opportunities

were unearthed for the better assignment and organization of personnel. The departmental budgets at different levels for both operating and service departments having been developed and plotted in a manner similar to that shown in the chart so as to indicate the fixed and variable expenses, the results were summarized and the service departments' overhead allocated to the operating departments. Here activity in overhead distribution was reflected by giving recognition to the fact that each service department was maintained for the purpose of rendering service upon demand and that, therefore, the fixed charges of each service department should be borne by the operating departments in proportion to the relative potential demands, and the variable expenses in proportion to actual demands and not as formerly when the total charges of the service departments were borne by the operating departments in proportion to actual usage.

The net result of the summarization of the departmental budgets is reflected in the graphic chart. The total fixed charges for the plant amounted to \$250,000 and the variable charges to \$1.085 for each direct labor hour. For each department and for each overhead item of the department, similar costs of fixed and variable components of expenses were available both for the purposes of reflecting activity in overhead distribution through the determination of burden rates and for the purpose of general long-term control of overhead expenses.

Selecting an Over-all Productive Level for Absorbing Overhead Costs

The next point for consideration was, of course, the selection of a level of operation which would afford the most desirable results from a management point of view for absorbing overhead costs into unit product costs. Obviously, if the variable expenses were properly controlled, they would vary proportionately with productive hours and, too, the most pertinent information regarding fixed expenses, i.e., the amount for each month or year, for each department and for each item of expense, was already at hand. Therefore any situation involving the calculation of unit costs at varying hypothetical levels of operation or under other hypothetical conditions could be readily determined and an intelligent distinction made between differential costs and fixed costs. However, what over the long run would fairly be an equitable per hour cost arising from so-called fixed costs?

The entire practical capacity of the existing plant had not been utilized within its recent history. This was computed to be about

600,000 direct labor hours per eight-hour single shift. The 1929 level had reached about 730,000 hours, or somewhat in excess of single-shift practical capacity. The average utilization of plant in the industry as previously mentioned was about 60 per cent, and on that basis, if approximately the same conditions prevailed during, say, the ten-year period ending in 1940 as had prevailed for the previous ten years, then about 360,000 hours average annual operation might be expected. Without informing an executive of the company as to the reason for the request, it was suggested that he forecast, according to years, the machine tool business which would be received during the years ending with the year 1940. His forecast anticipated no considerable increase in selling prices of product beyond that experienced during the ten-year period ending in 1929 and when averaged for the period, his forecast showed a slight annual reduction from the average sales of the previous ten-year period so that the average corresponded approximately with the sales of the year 1927 instead of the year 1926, which had been considered as "normal" by the industry for the previous ten-year period. Such sales, when translated into terms of probable necessary productive time, amounted to 350,000 direct labor hours. Therefore, 350,000 hours was accepted as normal utilization of plant for the period ending in 1940. While this over-all productive level was somewhat less than 60 per cent of practical capacity when it was analyzed into terms of cost center activity, it was found that because of changes in machine tool construction during the depression, certain centers, notably planers, would be required to operate at almost full practical single-shift capacity in order to balance the plant's productive output at the normal utilization level, while other centers would be required to operate at considerably less than the general average. The individual burden rates for the centers were, of course, developed with regard for such apparent conditions.

Effect of Current Conditions on Burden Rates

It is interesting indeed to observe that the forecast of sales was followed very closely by actual conditions until the French Air Ministry and the representatives of other powers went into action in preparation for defense. Instead of the recession of 1938 continuing through 1939 and 1940, as had been anticipated in the forecast, the middle of the year 1939 saw more orders on the company's books

than ever before in the company's history, with a substantial part of the value of such orders already in the company's treasury. In the meantime, the company had made certain modest additions to its buildings and equipment because of the more general acceptance of one of its products which required considerable special machinery in order to manufacture it economically and which, because of plant layout, could not be practically introduced into the available space. The additional fixed charges have for the time being been added to the fixed charges of the departments involved without increasing the normal utilization level, so that the net effect is a considerable addition to the normal burden rates of those departments, although over-all it represents an increase of but 10¢ per direct labor hour.

The company does not contemplate expansion of plant as a result of present conditions, or at least it does not feel justified in so expending its own capital. Furthermore, it anticipates with horror what will come after this period of present abnormal activity. If normal burden rates should be computed on what now appears to be the average utilization of plant for the ten years ending December 31, 1940, they would over-all amount to approximately 54¢ per hour instead of 71¢ per hour as presently used, by reason of an increase in utilization from 350,000 hours as forecasted to about 532,000 hours. In the light of these facts and the probably not unreasonable attitude of the company toward the future of the machine tool business and business generally (beyond immediate horizons), is it necessary or advisable to increase the level of normal utilization upon which this company now bases its burden rates?

For the time being let the answer be another question: What is the effect of the rates now used in so far as profit determination and inventory valuation particularly are concerned? Any consideration of prices in this connection appears, at least for the time being, to be unnecessary, for they are generally adequate, perhaps needless to say, and much more nearly in line with providing a fair average return on invested capital than ever before.

Analysis of Accompanying Table

The columnar tabulation of figures on page 218 sets forth some of the information pertinent to this discussion. Incidentally, we may find some information that is foreign to the discussion, for both the graph and the tabulation, which are distantly related, were

EASTERN MACHINE TOOL COMPANY

MANUFACTURING OVERHEAD AND CERTAIN RELATED STATISTICS (*& omitted*)

(*§ omitted*)

| Col. 1 Year | Col. 2 Actual D.L. Hours | Col. 3 Actual Absorbed Manufacturing Expenses | Col. 4 | Col. 5 | Col. 6 | Col. 7 VARIANCE—MANUFACTURING EXPENSES | | | Col. 9 Standard Costs | Col. 10 Net Total Under or (Over) Absorbed | \$ |
|--|--------------------------------|---|-------------------|---------------------|-----------------------|--|--|--|--|--|--------------------|
| | | | | | | Total | Fixed | Variable | | | |
| 1929 | 73,698 | \$ 1,033,641 | \$ 1,057,675 | \$ 1,042,807 | \$ 250,000 | \$ 792,807 | \$ 446,221 | \$ 346,586 | \$ 211,718 | \$ 40,834 | \$ 256,350 |
| 1930 | 41,264 | 832,658 | 599,844 | 696,221 | 250,000 | 433,642 | 186,241 | 127,441 | 156,437 | 140,019 | 25,966 |
| 1931 | 17,651 | 510,432 | 514,059 | 436,241 | 250,000 | 184,848 | 169,815 | 15,033 | 74,191 | 54,741 | 25,814 |
| 1932 | 112,303 | 384,149 | 147,436 | 371,848 | 250,000 | 121,848 | 102,805 | 18,043 | 12,301 | 54,937 | 256,373 |
| 1933 | 80,105 | 316,528 | 144,058 | 336,913 | 250,000 | 86,913 | 75,913 | 11,000 | 192,805 | 192,805 | 236,713 |
| 1934 | 22,156 | 465,98 | 389,916 | 492,209 | 250,000 | 243,000 | 89,953 | 154,056 | 27,611 | 13,340 | 192,470 |
| 1935 | 58,491 | 754,144 | 1,036,729 | 880,917 | 250,000 | 630,917 | 165,585 | 465,330 | 126,773 | 9,773 | 75,682 |
| 1936 | 626,541 | 902,034 | 1,157,090 | 929,796 | 250,000 | 679,796 | 100,000 | 579,796 | 27,762 | 20,044 | 215,550 |
| 1937 | 922,005 | 1,341,158 | 1,710,686 | 1,250,375 | 250,000 | 1,000,375 | 488,311 | 512,000 | 90,783 | 52,000 | 312,824 |
| 1938 | 532,180 | 1,043,086 | 989,558 | 862,415 | *285,000 | 577,415 | *148,194 | 418,194 | 180,671 | *21,051 | 380,257 |
| 1939 | 868,679 | 1,487,415 | 1,634,706 | 1,227,516 | *285,000 | 942,516 | *422,105 | 520,516 | 259,899 | *14,935 | 251,774 |
| Est'd 1940 | 1,200,000 | 2,000,000 | 2,250,000 | 1,587,000 | *285,000 | 1,302,000 | *691,800 | 413,000 | *28,300 | (5) | 464,788 |
| TOTALS | 6,461,073 | \$11,160,843 | 11,371,757 | \$10,115,258 | \$3,105,000 | \$7,010,238 | (\$1,768,691) | \$1,045,585 | \$512,192 | (\$20,914) | \$2,294,202 |
| Col. 5 & Col. 6 Normal Rate Based on 350,000 D.L. Hrs. is \$714 or *\$814 per D.L.H. | | | | | \$1,085 per D.L.H. | Difference (Col. 1 X \$714) or Col. 4 & (Col. 1 X \$814) | Difference Col. 2 & Col. 4 or Col. 4 & (Col. 1 X \$814) | Difference Col. 3 & Col. 1 X (\$1,799) or Col. 3 & * (Col. 1 X \$1,899). | Difference Col. 2 & Col. 3 & Col. 1 X (\$1,799) or Col. 3 & * (Col. 1 X \$1,899). | Difference Col. 2 & Col. 3 & Col. 1 X (\$1,799) or Col. 3 & * (Col. 1 X \$1,899). | |

prepared and sent to New York for printing before this paper was written.

Columns 1, 2 and 3 present the Actual Direct Labor Hours, the Actual Manufacturing Expenses and the Actual Absorbed Manufacturing Expenses, respectively, for the twelve-year period from 1929 to 1940, inclusive. Columns 4, 5 and 6 set forth, according to fixed and variable components, the budgeted amounts for the Actual Direct Labor Hours shown in Column 1. Columns 7, 8 and 9 give an approximate analysis of the Under- and Over-absorbed Expenses shown in Column 10 which, of course, is the difference between Columns 2 and 3. Column 11 presents total variances from Standard Costs and includes materials, direct labor and manufacturing expenses in excess of standard.

As previously explained, the burden rates prior to the year 1931 were determined on the basis of an arbitrarily assumed normal level considerably in excess of that which was, perhaps, more reasonably indicated. This fact accounts for the condition brought out in Column 9 (the first two figures) which, as Other Variances of considerable proportions (\$256,850 and \$140,019), represents really the difference between the effects of burden rates as previously computed (prior to 1931) and those as presently computed on a 350,000 hour level. The other figures in Column 9 represent the difference between the sum total of departmental burden, computed on departmental rates, and the over-all burden rate of \$1.799 (\$.714 per hour fixed and \$.1085 variable).

Column 8 represents the differences between Column 4, the long-term budgets for the respective levels of operation, and Column 2, the amounts actually expended and in this case generally anticipated by the annual budget. In the graphic chart, such amounts are represented by the horizontal distances from the line marked "Budget" to points indicated by crosses and identified according to years. Such differences relate particularly to expenditures for experimental work, salaries of shop departmental executives and key men, repairs, and overtime work not anticipated by the study of overhead made some time ago and encountered now by reason of changed conditions.

With the exception of the expenditures for overtime work which has been found necessary by reason of a serious shortage of skilled labor, the items comprising the differences are the result of appropriations by management because, with full realization of the probably temporary nature of existing profitable operating levels, it ap-

pears advisable to develop products to every possible extent, to reward key men for faithfulness during the lean years, and to restore the plant to the best possible condition, all while means are available. None of these expenditures result in an increase in the fixed charges or the fixed component of overhead; they merely represent variable expenses which are variable by managerial appropriation, which have been increased with activity but at a much greater rate than contemplated when the long-term budget was developed. Thus, also, intangible values are created within the company which, otherwise, unless dissipated by dividends, might foster an attack under Section 102.

Column 7 sets forth the differences or variances between absorbed and expended fixed manufacturing expenses which are attributable to activity at greater or lesser levels than that contemplated by normal activity. Graphically, such differences at the respective levels of operation indicated by the number of direct labor hours, are shown in the areas marked Overabsorbed or Underabsorbed. The net effect of Columns 7, 8 and 9 is reflected in Column 10 in which are presented annual net amounts of overabsorbed or underabsorbed burden which are to be considered for adequate and satisfactory accounting treatment.

Method of Developing Standard Cost Variance

Comment on Column 11 brings out what is a somewhat unusual method of developing standard cost variances. Previous comment has indicated that overhead costs are carried into unit costs upon the basis of actual hours which, of course, is the job cost method of accumulation. The case company has, for reasons which it considers adequate, imposed a standard cost system, so to speak, on top of the job cost system and, perhaps surprisingly, has accomplished this task without any material increase in clerical cost. For accounting purposes, standard cost variances are not computed until a part has been completed, although the performance of individual workmen by relation to fair standards is accumulated daily for use by departmental foremen. In order to provide for variances between actual costs and standard costs in respect of work in process, a reserve is provided monthly in respect of labor which is computed on the basis of the monthly departmental performances of labor in comparison with standard applied to the actual cost of labor which has been charged to the work-in-process accounts during the month. To this is added

a provision for overhead and for variance in usage and cost of materials. As units are completed, their accumulated actual costs are compared with standard cost and, according to the elements—materials, labor and overhead—the actual variances are charged against the reserves provided. In this manner the variances summarized in Column 11 are accumulated.

The accounting treatment of variances in manufacturing expenses as such and of variances in standard costs, which probably consists on the average of about 50 per cent of manufacturing expenses, is the same both for purposes of monthly statements and year-end statements—they are invariably disposed of as adjustments of standard gross profit. On the basis of the most recent six years (including estimated results for 1940) this practice has resulted in charges against standard operating results measured by the difference between the totals of Column 11 (\$2,294,202) and the total of items 1 to 6 in Column 10 (\$1,250,932) or approximately \$1,000,000, which represents about 8 per cent of the standard cost of sales during that period.

In other words, it appears that during the six-year period ending December 31, 1940, there will have been absorbed into Actual Manufacturing Costs certain amounts for fixed charges which exceed the approximate expenditures by about \$2,000,000, which is represented by the total of the amounts in Column 7 for the years 1935 to 1940, inclusive. However, as an offset there have been excess appropriations (by comparison with the long-term budget) of variable expenses aggregating about \$800,000, which have brought the net overabsorbed to about \$1,200,000 (items 1 to 6 inclusive—Column 10). Against this amount have been charged variances in standard costs aggregating about \$2,200,000, including manufacturing expenses due to inefficiency of labor, so that the net effect has been to charge operating results with approximately \$1,000,000 more than the standard costs of the products manufactured during the six-year period.

Effect on Inventory Valuation

What has been the effect of all this on inventory valuation? Has activity been properly reflected in the element of overhead included therein? Let us see. Overhead costs have been included in unit costs, as first computed on a job cost basis, by the use of normal rates, determined with regard for long-term utilization of plant ex-

tended beyond the immediate future and embracing both fixed and variable components of overhead. However, the utilization of plant during each of the most recent six years referred to in the tabulation has been at a level which is considerably in excess of what is considered normal utilization. Therefore, during those years the fixed components of overhead included in cost, as first computed on a job cost basis, are considerably in excess of the annual expenditures and accruals therefor (see Column 7), although variable components of overhead which have for most of those years, at any rate, exceeded the amounts contemplated by the normal overhead rates (see Column 8), have offset in a measure the overabsorbed fixed expenses.

At this point in cost determination, which is on a job cost basis, there has been a considerable net amount of overhead included in unit costs and thus in inventory in excess of actual expenditures and if there were no other considerable factors, it would probably be advisable, for purposes of an annual balance sheet and profit and loss statement, to adjust the situation by prorating the net overabsorbed amount between profit and loss and inventory in accordance with the relative amounts of goods sold and on hand which had been produced during the year. However, in the case at hand in which job costs have been reduced subsequently to standard costs, may not the variances so resulting be considered as fair offsets to the amounts of overabsorbed burden, computed on a job cost basis, and thus both the profit and loss statement and the balance sheet be considered as properly (or conservatively) reflecting activity in overhead distribution? I think so. What is your opinion?

CHAIRMAN HIMMELBLAU: The annual meeting is scheduled to start a little later this morning. In the meantime, I am quite sure the speakers of the morning will be only too glad to answer any questions you may wish to ask.

WYMAN P. FISKE (*Professor of Accounting, Massachusetts Institute of Technology, Boston, Mass.*): I wonder if Mr. Howell would be willing to comment on Exhibit 5.

MR. HOWELL: Exhibit 5 is designed to demonstrate clearly to managers the importance of volume at the given breakeven point. Our cost accounting methods make it appear that on the very first item we made 10 cents profit, and on the second one we made

another, and that makes twenty. We keep on piling up these 10 cents until we get to a breakeven point and yet at this point we have made no net profit. It is difficult for anyone who is not an accountant to understand that. We have worked with managers trying to point out its importance and have developed this type of chart, in which we say: "You have two kinds of dollars. We say that every dollar up to the normal breakeven point is, say, only an 85-cent dollar. That is all it really brings in. Thereafter, it is a full-sized dollar, because the amount of fixed overhead is all paid for."

You do find, sometimes, that men understand the figures when you say that when you sell the first item, you are selling something that costs you, for material and labor and direct costs, 80 cents, plus \$20,000, which is your fixed cost of running. When you sell the second item that has cost you 80 cents, plus \$19,999.80—you recover another 20 cents.

In the breakdown of the sales dollar up to the basic quota, you will notice there is a big slice of each dollar of sales that goes toward a total amount of fixed costs. We try to point out that up to the breakeven point that is where the rest of the dollar goes. It does not go to net profit. But thereafter, all the fixed cost is paid for. Fixed costs do not go on forever. They may be a percentage of the cost of units of sale, but there also is a sum total in dollars, and when you have reached that and it is all paid for, each dollar's sales thereafter contribute that much extra.

That is important, also, in management's determination of whether you can afford more sales expense to reach a certain volume. If you use your ordinary costs, you can show that on this line you make 10 cents gross and therefore you can afford to spend 5 per cent of sales expense, but you may ignore the fact that above a certain point, if that volume has met all the fixed costs, you might very well be quite pleased to spend 10 per cent of that additional volume, because instead of having only 10 per cent net, you suddenly have 25 per cent net, since all of the fixed costs have been taken care of.

The relationship of the profit in a dollar above and below the breakeven point is what we have tried to bring out in those two cross sections of a customer dollar.

CHAIRMAN HIMMELBLAU: Are there any other questions you would like to have answered at this time?

CLINTON W. BENNETT (*Partner, Cooley & Marvin, Boston, Mass.*): In Mr. Chubbuck's excellent paper, he mentioned what I think is a very interesting point. If I understood it correctly, he said the case company has standard costs, and also operates on actual costs. I received the impression that they handle that problem in a somewhat unusual manner. I wonder if he would care to discuss that.

MR. CHUBBUCK: The Company has had a job order cost system for several years which was satisfactory as far as it went, but of course it provided no measures of performance. The "actual" costs, as they were, provided bases for price-making, for inventory valuation, and to a certain limited extent for the control of operations. In order to provide a better basis for control, standards for labor operations were developed and in terms of cost were combined with materials and burden standard costs. As mentioned in my paper, under the plan now in operation, variances between actual costs and standard costs are computed for accounting purposes at the completion of a job rather than as it progresses, although the performances of individual workmen by relation to standard are accumulated daily for use by departmental and sectional supervisors.

Thus, the Company's management has control of costs practically as they occur, and through the cost accountant's statements of actual costs of parts and assemblies in comparison with the standard costs thereof, it also obtains a summarized historical picture of what has happened recently and for the year to date. This cost plan is operating smoothly and economically. It is used intelligently and it provides, I believe, all of the information which can be expected of any cost plan.

CHAIRMAN HIMMELBLAU: It is now time for the annual meeting. The remaining questions, I know, will be discussed by the two speakers at the discussion sessions this afternoon. Don't forget your questions, and they will be only too glad to cover them. The meeting now stands adjourned.

. . . The meeting adjourned at eleven-fifty o'clock . . .

SESSION IV GROUP DISCUSSIONS

WEDNESDAY AFTERNOON, JUNE 26, 1940

DAVID HIMMELBLAU, *Chairman*

PROBLEMS OF OVERHEAD DISTRIBUTION
NORMAL BURDEN AND BURDEN VARIANCES
DEPRECIATION
INFORMATION FOR FOREMEN AND EMPLOYEES

HERBERT F. TAGGART is Professor of Accounting at the University of Michigan, where he has taught accounting since 1920 except for two years at Kansas University and two periods of service with the Federal Government. From 1933 to 1935, he served as Chief of the Cost Accounting Unit of the National Recovery Administration and in 1938 as Consultant on Distribution Cost Analysis with the Bureau of Foreign and Domestic Commerce. Professor Taggart received his Ph.D. from the University of Michigan and is a Michigan C.P.A. He is the author of several books, pamphlets and articles in professional journals.

CECIL M. GILLESPIE is Professor of Accounting at Northwestern University. Prior to joining the Northwestern Staff in 1927, he served as a member of the Industrial Engineering Department and later the Accounting Department of Jones and Laughlin Steel Corp., Pittsburgh. Professor Gillespie is well known for his two books on cost accounting and standard costs.

JOHN H. DEVITT is Assistant Auditor of the Hammermill Paper Co. He began his work with the company in 1922 in the laboratory, was later transferred to the Engineering Department and then to the Auditing Department. A charter member of the Erie Chapter, Mr. DeVitt has served it in many capacities, including the presidency for the year 1933-34. Since 1934, he has been a member of the National Board and is at present serving as National Director in charge of Membership.

MASON SMITH is a Partner of the firm of McKinsey, Kearney & Co., Chicago. Previous business connections include acting as Assistant Secretary of N. A. C. A., Assistant Professor of Accounting at Northwestern University, Staff Member of James O. McKinsey & Co., Assistant General Manager of Operations for Kroger Grocery & Baking Co. and Director of Personnel at Marshall Field & Co. Mr. Smith is an Illinois C. P. A.

PROBLEMS OF OVERHEAD DISTRIBUTION

Chairman: HERBERT F. TAGGART

Professor of Accounting, University of Michigan,
Ann Arbor, Mich.

CHAIRMAN TAGGART: This is your meeting, not mine. What little I can contribute I am willing to, but as you know, I am a college professor, and you know that, reputedly, "them as can, do; and them as can't, teach." As a result, I have very little to contribute. I did work out an outline, and you have it in your hands. I shall make a few preliminary remarks, but it is up to you to make the meeting a success.

I have divided the subject into three parts, not by any means of equal importance. The first is terminology, which some people think appeals only to college professors, but I have often heard practical men argue over the meaning of some of these terms we use. I find people using the same terms in different senses, and you have all heard many arguments based on nothing more than a disagreement in definition of terms by two different individuals. As soon as they have their terms defined, they find they are in perfect accord.

"Overhead" is a pretty broad expression. It is called by many different terms under different circumstances. One of the favorite tricks of writers of cost accounting texts, I have discovered, is to try to invent a new term for it. They don't like "overhead," because they say it doesn't mean anything. They don't like "burden," because they think that conveys a rather unfortunate notion about overhead; they don't like "expense" for one reason or another, so they invent terms like "factory service cost," for instance. For three or four years I taught my cost accounting students out of a textbook that used "factory service cost." It has quite a lot of merit theoretically, but practically it is pretty long and complicated. I don't see how you could ever teach people to adopt an expression of that sort when there are short, simple, and more or less traditional words available which, though not exact, of course, have substantially the same meaning.

One of the first questions that confronted me in connection with this topic was, do they mean factory overhead, or do they mean selling and distribution overhead, or do they mean both? I have the answer to that, namely, that they do mean both. Mr. Himmelblau, in

discussing the topic with me, suggested that in view of the fact that distribution overhead was not to be specifically discussed elsewhere in the convention this year, we might confine our attention to this, if you people were interested. I don't see how I can preclude your talking about factory overhead, however, especially in view of the excellent presentations of several phases of factory overhead that we had this morning, but I do hope, if you have any pressing problems on distribution overhead, you won't hesitate to put the greatest emphasis on them.

Another problem of terminology which is of considerable importance, at least to a college professor, is what is meant by "overhead distribution." Is distribution the same as allocation, proration, assignment, application, apportionment, and I don't know how many other expressions used to indicate various degrees and kinds of manipulation, combinations, and analyses of overhead for various purposes, which come under all those terms? There is no reason why we should confine ourselves to any one of these things if they are, in fact, different from each other. Therefore we will throw the meeting open to discussion of any or all of these matters.

Overhead distribution in manufacturing involves distribution within the plant, that is, to departments (which you may call by some other term). It also involves distribution to products, usually by means of certain rates, based on labor hours, machine hours, etc., and also distribution in point of time.

I am not going to spend further time on manufacturing overhead just now, but shall, instead, proceed to what I have called "problems in distribution overhead." The first thing that should be mentioned is that not all distribution costs are overhead. That is a mistake a great many people make when talking about distribution costs. A good share of distribution cost is direct, and the rule which holds true in manufacturing costs holds just as true in the case of distribution costs. The sound, fundamental rule in the case of manufacturing costs and all other costs, is that those costs which really are direct should be so treated just as far as is practicably possible. That is going to be brought home to some of you, I think, in a very definite way in connection with these war contracts we were talking about yesterday. It is extremely important that just as much cost should be charged directly to those contracts as is humanly possible. Only in that way are you going to avoid endless disputes with the Bureau of

Internal Revenue, to say nothing of the War Department, the Navy Department and the other people who are interested.

Thus, whenever you are talking about the analysis of distribution costs, the first consideration is what costs are direct or, more precisely, what costs can practically be treated as direct in the analysis. There is a difference, of course, because you may have certain minor items of cost which it just doesn't pay to treat as direct costs. The cost of so treating them would be greater than the costs themselves. With that point decided, we can proceed to consider distribution overhead.

The first point that always comes up is where manufacturing leaves off and distribution begins. You see some very interesting statements with regard to that matter in cost accounting texts. In my job I have to look over these books, and I think if some of you people, with your school days considerably behind you, would sit down some time and thoughtfully read some of these cost accounting texts, you might be a little surprised at what you would find. I saw a statement in a cost accounting text, for example, to the effect that shipping containers should always be considered a part of distribution cost, no matter at what point in the process they went on to the product; that is, they shouldn't be treated as a manufacturing cost. As a matter of fact, there are a great many cases where a product is put up in a shipping container as an integral part of the manufacturing operation, and the manufacturing really is not complete until the container is put on, or until the product is put into the container. That is not distribution cost, in my estimation, but if some of you have a different notion, I should be very glad to have you express it. That may be a moot point.

Then, too, there are a good many costs, such as research, engineering, preliminary drawing of plans and specifications, bidding expense, and so on, all of which shade into either manufacturing or distribution, as the case may be, and I would be very glad to hear from some of you regarding any problems that may have arisen with respect to items of that sort.

In addition, we have the general topic of the purposes, methods and problems of analyzing distribution costs in terms of products and commodities, and in terms of customers. I would be glad to have questions, observations or comments from you in connection with any of these analyses. For such analyses, products or commodities are often classified according to physical characteristics or market-

ing characteristics—by marketing characteristics I mean how they are sold or through what channels they are sold. Customer analyses may be carried on in terms of individual customers, or customers may be classified according to geographical location (this is usually called territorial analysis, which is perhaps the simplest type of distribution cost analysis), typical order size, volume, or on other bases. At the present time the Federal Trade Commission is interested in that particular field, and some of you may have had some experiences with the Commission on some of these points.

With that preliminary, I shall throw the meeting open to discussion. My job, may I repeat, is not to answer questions, and I don't want you to get the impression that it is. I shall try to avoid answering questions as much as possible, but if necessary I may express an opinion.

FEDERAL TRADE COMMISSION STUDY

H. JACK BOCK (*Assistant Treasurer, Diamond Crystal Salt Co., Inc., St. Clair, Mich.*) : I believe you are in a position to answer questions in connection with the Federal Trade Commission's study of distribution costs. You tell us you don't intend to answer many questions, but this is one I think you can help us with.

I would like to know what type of study it is, how it is being carried on, and what the Federal Trade Commission intends to do with the facts after they have been developed.

CHAIRMAN TAGGART: That covers a lot of ground. As you know, Congress made a special allotment to the Federal Trade Commission to make a study of distribution costs. I think the chief reason the Federal Trade Commission gave for wanting such an appropriation was in connection with the Robinson-Patman Act, but they were interested in distribution costs prior to the Robinson-Patman Act, for that matter.

I went down to the Federal Trade Commission in Washington a few days ago for the express purpose of finding out what they were up to, and I talked to several people. As far as I can discover, the study is going to be neither complete nor elaborate. They have, however, approached a good many individual concerns (possibly some of those represented here) in an effort to find out what they were doing in the way of distribution cost analysis for their own purposes. The

contact, as I understand it, has been rather informal; that is, they haven't developed an elaborate questionnaire. They have simply taken whatever results they could get, and attempted to analyze and organize the material to some extent.

They have found, of course, a unanimous lack of unanimity in methods. They have found a good deal of no analysis whatever, and all shades and degrees of effort to make sense out of distribution costs. Exactly what they plan to do with the material is of course in the laps of the gods and the Federal Trade Commissioners. I venture a guess, however, that one thing they will not do is to issue a series of regulations as to how individual concerns are to analyze their costs for Robinson-Patman purposes. I don't believe they are ever going to arrive at that stage. There may have been some such thought at one time, but after the experience in the Standard Brands case and also, undoubtedly, in a good many cases which have been adjusted in an informal fashion, I suspect they have come to the conclusion that not only is there no standardization, but there can be no standardization.

I wouldn't be greatly surprised if you would see sometime, perhaps within the next year or so, some case studies published by the Federal Trade Commission on methods of distribution cost analysis. I may be entirely mistaken in that. They may retain that material in their own files for their own use, without making it public at all, but it seems to me they really owe it to the people who have co-operated with them to try to make the information available in some form or other, as at least a rough guide to industries that may be confronted with Robinson-Patman problems.

You will never, as I say, find hard and fast rules laid down. It is just too complicated, and they have entirely too many kinds of situations to contend with.

That is a long answer, but it was a long question.

TERMINOLOGY

WILLIAM J. MADISON (*Assistant to the Manager, Loose-Wiles Biscuit Co., Long Island City, N. Y.*): In that connection, I think this meeting can make a definite contribution to industry and to the lawmakers by setting the accepted practice this convention would be willing to agree to, or at least this meeting, on the subject of terminology.

In the past we have always disagreed on terminology. We have waited for government regulations to settle that question for us. Certainly, if we can get a majority opinion from this session to agree on certain terminology to apply to overhead distribution, either for factory overhead or distribution costs, and have that set up in our Year Book as the accepted practice for the Association, I think that would bear some weight. Possibly a short discussion, with a vote taken afterward, might give us something definite to follow in the future. I am presenting this thought as a suggestion.

HERBERT J. MYERS (Controller, Farnsworth Television & Radio Corp., Fort Wayne, Ind.): I think there is one question of terminology that probably ought to be straightened out; that is, regarding the meaning of direct costs. You referred to it in connection with distribution costs. I always like to go back to factory overhead to make the same kind of comparison when we are talking about distribution overhead. I am going to contribute my own ideas on that for whatever they may be worth.

I think we sometimes confuse the meaning of direct costs when we are talking about overhead, or even direct costs themselves. In the case of direct costs in connection with manufacturing, we are naturally thinking of the material and the labor that go into the product, but we also sometimes talk about direct factory expenses in connection with overhead.

By direct overhead, I always mean items that are directly incurred in connection with a manufacturing process or a department, but which cannot be charged directly to a unit of product as can the direct labor or the material consumed in that particular process. The same thing is true in connection with distribution costs, and I think we should at least get that straightened out or understand that it has two meanings.

I can hardly think of applying some of our distribution costs directly or considering some of our distribution costs as direct in the same sense as material and labor. For instance, if you finish a product and put it in your finished goods warehouse, and then you distribute it directly from the warehouse to a consumer, a retail outlet, or to another distribution point of your own, controlled as a branch warehouse, you have labor charges and many other items of handling there, and also at your second distribution point. To my way of thinking, they are direct costs that are directly chargeable

to each one of those distribution points, but they are not the same as direct labor in a manufacturing sense.

Then, of course, we have other items of distribution overhead that have to be allocated to lines or to the business as a whole on some other basis, but those items of direct distribution cost can be allocated to the center of operation.

I wish to add this thought so that we may have a clearer understanding of what we mean when we are talking about direct costs in connection with distribution overhead.

CHAIRMAN TAGGART: That is a real contribution. I have had to wrestle with that problem a good many times, and I think perhaps a great many textbooks don't bring out that distinction very clearly. A great many students go out of their cost accounting classes with pretty hazy ideas as to what is direct and what is indirect, and what the real significance of those expressions may be.

I am interested in Mr. Madison's suggestion. I think he is attempting the impossible, but, nevertheless, I would be glad to explore the possibility of getting a little agreement on terminology. I wonder if Mr. Madison has any specific suggestions.

MR. MADISON: I haven't any specific suggestion, because I have always followed the rule that the majority sets the procedure to be followed. If this group feels we should use the word "overhead" to describe all indirect or prorated costs, let us follow that, and whenever we meet we will at least know what we are talking about, or if we are talking with any of our top executives we can, in turn, explain to them what the word "overhead" may mean. If we want to use "burden," let us use burden.

"Burden," I believe, really came into existence when we started to get into standard costs. They just changed "overhead" to "burden." It is a question of what we want to adopt here. Personally, I say the simplest and most understandable of all is "overhead." It is manufacturing overhead or distribution overhead, either one of the two.

CHAIRMAN TAGGART: Can we get other reactions on that point?

MILTON VOGEL (*Editor, La Salle Extension University, Chicago, Ill.*): There do not seem to be any definite boundaries that you can

set as between these two groups of costs, distribution cost and production cost. There is a third class which we sometimes call general administrative expenses. There are some people who propose that these administrative expenses are not, in themselves, a specific function of business, but that they serve both production and distribution.

I should like to bring this question before the group: Can we draw a line of demarcation between distribution costs and production costs, and in that scheme where do the general administrative expenses come in?

CHAIRMAN TAGGART: Has anyone any thoughts on that point?

EUGENE O. SCHALK (*Cost Accountant, P. R. Mallory & Co., Indianapolis, Ind.*): In all my business connections I have always felt that the word "expense" is the most self-explanatory term. It is a word that the average person, even though not in business, understands. For that reason I wish to submit the suggestion that "expense" be used in preference to "overhead" or "burden." We cost accountants must bear in mind that terminology used in reports must be self-explanatory. We cannot expect executives to read our minds.

I might also add that we should add the word "manufacturing" to "expense" which would cover any expense, burden or overhead chargeable to the manufacture of the item, and use the expression "distribution expense" for such expense in connection with the sale and distribution of the item. The last classification of expense should be known as "administrative expense." To summarize the above, we would have:

Prime Cost (direct labor and material)

Manufacturing Expense

Distribution Expense

Administrative Expense

CHAIRMAN TAGGART: We seem to have a slight difference of opinion here. Mr. Madison says he wants us to call it "overhead," and Mr. Schalk says he thinks "manufacturing expense" and "distribution expense" are the proper expressions. I judge that he doesn't like overhead.

MR. MYERS: I am glad to see these opinions aired here, because I have used all the terms myself at different times, depending on

whom I was talking with, and I found I had to start using one and then switch over to the other, because it is sometimes confusing. We cost accountants are quite familiar with nearly all of the terms and, of course, readily understand that if we say "burden," we mean "expense," or if we say "expense" we mean "overhead," and so forth, but I believe it would be a good thing if we could adopt some one term that would be understandable by almost anyone.

It is true that "overhead" probably is simple. I don't care what is adopted personally, but I do feel the word "expense" has a broader and more definite meaning to nearly anybody, whether he has ever heard of accounting or not. It is a little longer term, but what is one letter more or less in the word we adopt? "Manufacturing expense," "administrative expense," and "distribution expense," each has a definite meaning to the man in the street, I believe, the same as it does to most of us. I would like to see a vote on this question; I don't mean right now, but after a little more discussion.

CHAIRMAN TAGGART: I don't think we will take a vote right now. We have some hands raised back here.

EUGENE R. NEVINS (*Works Accountant, Manning, Maxwell & Moore, Inc., Bridgeport, Conn.*) : It seems to me that if we call our prime charges direct, when we refer to burden or overhead we should call them indirect. The very opposition of those words conveys the true meaning of what "overhead" is. Overhead, in a very simple sense, is anything which isn't direct. That is what it practically amounts to. If we admit that and say that all charges which are not direct are indirect, we will have a very simple solution.

I recall, a few months ago, hearing Mr. C. C. James of New York speak. He was very much in favor of calling burden or overhead "indirect charges." He very humorously remarked that it certainly wasn't overhead, because a company that was well managed had its expenses under foot, rather than over head. He also mentioned a point that you made, namely, that burden was not something carried on the backs of labor, but rather a definite contribution by a group of people who, perhaps, do not labor in the same sense that labor in the factory labors.

JOHN C. NAYLOR (*Vice President, Pet Milk Co., St. Louis, Mo.*) : I think this is a very interesting discussion, but I am reminded of

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JOHN C. NAYLOR (*Vice President, Pet Milk Co., St. Louis, Mo.*) : I think this is a very interesting discussion, but I am reminded of

an expression which says that a rose would smell as sweet by any other name.

I wonder if, in the limited amount of time we have, we should attempt to reach a unanimous opinion on a thing so much at variance among different people, and probably so unimportant. I can't quite subscribe to the importance of a terminology which will meet every person's views.

It seems to me terms should be defined, and then discussion should proceed on that basis. I am wondering if it would be worth while to suggest that we might be more interested in the application and the distribution of these expenses, whatever they might be called. Let's specifically name them, and then try to find out what good practice is among the companies in distributing these particular expenses. In other words, take research expense, or some specific thing we all know about, and then find out how various companies are treating it. I have no objection to theoretical discussions. I have indulged in them a great many times myself. I am guilty both of teaching and of having been around a university for a good many years. I do believe, however, that for this particular session, we might profitably devote more time to naming a particular expense, and then finding out the best practice in handling it. I offer this as a suggestion.

CHAIRMAN TAGGART: That strikes a responsive chord in my heart as well. I don't want to rule Mr. Madison out of order, but I do think continued discussion of terminology would be quite fruitless. I think what we have discussed was worth while.

F. EARL REUWER (*Secretary-Treasurer, American Bosch Corp., Springfield, Mass.*): I would like to endorse what has just been said about getting to the meat of this problem, and would like to recommend that for the purpose of this meeting we decide to proceed on the basis that all costs and expenses are either direct or indirect, and from that point that we discuss some of the problems in connection with the distribution of indirect costs.

CHAIRMAN TAGGART: All right, let's adopt that procedure. We should remember, however, that when we talk about direct and indirect, we must always have a point of departure. It depends on what you are referring to. If you are thinking about products, certain costs are direct, and certain others are indirect. If you are thinking

about departments, some costs are direct which, as far as products are concerned, are indirect. That, of course, is also true in the distribution field, where costs that are direct as far as products are concerned, are indirect as far as customers are concerned, and vice versa.

How about proceeding with the business of the day, distribution of indirect costs? I would like you to make suggestions with regard to either the factory or the selling end.

ALLOWANCE IN OVERHEAD FOR DEFECTIVE WORK

MR. REUWER: I would like to ask a question in that connection on the problem of distributing indirect costs to manufacturing departments, where an over-all indirect cost is applied to jobs going through departments, but which jobs constitute a variety of products of various lines. In certain cases, we know that indirect costs are applied to those products at one average rate for the department. Has anybody here had any experience in using a separate subdepartmental rate for various products passing through a department?

CHARLES F. READ (*Cost Accountant, Maryland Glass Corp., Baltimore, Md.*): I will answer Mr. Reuwer in this manner: If you have a time and motion study analysis in the department, and you get some common units in that way, you might apply your overhead on a unit basis, which would then apply a proportion of the overhead to the amount of work on the particular item, so that individual products requiring more labor, more man hours or more machine endeavor would take more overhead than those that do not require as much.

MR. SCHALK: We have this very problem in our company, and for this reason we have production centers. We may have a small machine the cost of which may be \$100. Such a machine may require one man's entire attention. In another production center we may have four or five machines the cost of which may be \$3,000 each. These machines may also require one man's full time. Therefore the distribution of indirect cost based on direct labor would be incorrect. Under our system we ascertain the cost for such production center, that is, the fixed charges and maintenance cost. We then use the direct labor for normal activity and arrive at an overhead

rate. In other words, in the first instance, where one man runs a machine the cost of which is \$100, the overhead rate might be 75 to 85 per cent of direct labor cost, while in the second instance the overhead rate might be 350 per cent.

MR. REUWER: In that connection, I should like to ascertain whether this indirect cost rate, which is used on various types of products that might pass through a cost center, includes an allowance for defective work and scrap cost. If defective work or scrap cost is included in that departmental rate, and you know a certain type of product passing through that cost center results in a greater amount of defective loss than other products, is any allowance made for that greater loss on that product?

CHAIRMAN TAGGART: That is a fair question. The question is, where waste may vary on different classes of products in going through the same production center, does the production center burden rate vary in accordance with the special waste conditions for the particular product or line of products, or is it uniform for all products?

MR. SCHALK: The burden rate varies. It is our habit to study each item as to its hazard and waste cost. We make certain allowances on one item which we would not make on another. By this I mean that if we make an item which in the course of manufacturing would break more readily than another, we make an allowance in our standard cost and automatically allow the department more material as well as labor. If, however, the loss should be beyond this standard allowance, such additional cost would be recorded as excess cost. We continuously study our excess costs and if we should find that our standard or normal allowance is not sufficient due to the manufacturing hazard of a certain item, we change the standard. If, however, we decide that the normal allowance is sufficient, although more waste was experienced, we take the balance and include it in an average excess cost.

MR. REUWER: Again, I would like to ask if the recorded result of the cost accounting procedure is treated in the same way. The treatment described might be useful in estimating the cost, but do you report it in your accounts in that manner?

MR. SCHALK: Our estimating department receives information from the cost department as to such additional allowances. In our business we call such allowances "Expected Cost Ratios." As mentioned before, these cost ratios vary, depending on the item; therefore we do make allowances for labor and for material. As an example, we might silver plate a certain item that subsequently might be spoiled and for which the foreman may not be responsible. It might be due to the condition and the hazard connected with the item manufactured. Therefore, the foreman automatically receives more material and more labor allowances which are still considered as standard. Consequently, the cost department has the expected cost, and if the expected cost is not sufficient to meet the actual cost, an excess requisition must be made for material and excess labor must be reported as such.

MR. REUWER: I perceive from the remarks just made that the system comprehends picking up the defective work in the material variation in the standard cost system. The basis of my question was the inclusion of loss from defective work as an item of indirect cost in the overhead rate.

MR. BOCK: I would offer the suggestion that in very many instances defective work costs or spoilage costs can and should be direct costs rather than indirect costs.

MR. SCHALK: That is exactly why we have such allowances in our standard costs. We believe and follow the theory that in certain instances defective work and spoilage should be considered a direct rather than an indirect cost.

WILLIAM R. SMITH (*Manager, Department of Costs & Statistics, Seidman & Seidman, Grand Rapids, Mich.*): As an illustration of that point, I have in mind one plant making Bentwood chairs. Certain of the chairs are made of rock elm, others of oak, and still others are made of other woods. In bending, the breakage will be much greater with certain woods than with others. If we were to treat the breakage and the spoilage of one wood as an overhead in the department, it would seriously affect the cost of chairs made from other woods. I agree with Mr. Schalk that it should be a direct cost applicable only to the product that is affected by the weakness in a given material.

CHAIRMAN TAGGART: That certainly is a clear illustration of the point that Mr. Schalk is trying to bring out. Of course, strictly speaking, that lies outside the field of our exploration this afternoon, but it illustrates one of these borderline situations where direct costs and indirect costs come pretty close together.

MR. MYERS: It seems to me that so far this discussion has revolved around manufacturing, whereas we were hoping to get into distribution costs. When I first started talking about the meaning of direct costs, I referred to manufacturing costs only to illustrate a point. I should like to learn more about distribution costs.

CHAIRMAN TAGGART: I would be very glad to have some of you tell what you are doing in the distribution cost field, or what your problems are.

SHOULD ADMINISTRATIVE EXPENSES BE PRORATED?

MR. NAYLOR: I would like to hear two things discussed. First of all, there is a current tendency for companies to go into new lines of business. One of the problems they have is to attempt to estimate the cost of the new product. That, of course, isn't a cost item as far as the past records are concerned, but it is a very important item because you want to know how much of the old equipment is to be used, how much new equipment is necessary, and what the probable new cost of the article will be.

I would like to put the second point in the form of a question. Is there more of a tendency at present to take some of the items that used to be called administration expense, such as the president's salary, the vice president's salary, and the salaries of operating men who spend a considerable amount of time in supervising and watching the operations, but still certainly couldn't be called factory workers, and charge them to manufacturing cost?

I would like to hear those two specific problems discussed, if it meets with the approval of the group.

CHAIRMAN TAGGART: There are two problems. I am very much interested in the latter, myself. It was touched on this morning—the distribution of this so-called administrative expense as between selling and distribution activities, and production activities. Are there any comments?

EMORY A. AUSTIN (*General Auditor, Hammermill Paper Co., Erie, Pa.*): That problem relates quite specifically to the treatment of distribution expenses under the Robinson-Patman Act. I think, generally speaking, we are interested primarily in stating our costs for the average purpose, and then in breaking those costs down for whatever specific purposes we might have.

It seems to me that in this question of the distribution of general overhead or administrative expense, the application of the salaries and expenses of the president, vice president and other officers, and of other administrative expense is best treated in a control account, general administrative expense, and also treated on your formal profit and loss statement in that manner. You have your manufacturing cost of sales, your gross profit from sales, your distribution expenses, and general administrative expense, and then if you need to give special treatment to a division of your general administrative expense, you have to do that as a separate job.

HOWARD A. GIDDINGS (*Staff, Leach, Rindfleisch & Scott, Richmond, Va.*): I am very much inclined to believe that it is desirable, both in order to have information available for protection under the Robinson-Patman Act, and also for the benefit that comes to management from having accurate information as to the distribution of expenses, to make that distribution as accurate as possible in the original classification of accounts.

I do not believe it is desirable to lump expenses and subsequently make an analysis, where this can be avoided. I think the emphasis ought to be on distributing as many expenses as possible, including so-called administrative expenses, the right way in the beginning. There will be some items, of course, which cannot be distributed in the beginning directly to the particular selling accounts, just as there are some manufacturing expenses that must be prorated. If careful thought is given to the planning of accounts, these items should be comparatively few. I think that, with the development of a system of accounts for the selling activity which approaches the efficiency of such a distribution as many concerns have for their manufacturing activity, this objective could be obtained.

My point is this: There are three or four different general breakdowns of accounts for the selling activity. One is by product classes, another is by territories or branches, another might be by channels of trade, such as dealing with retailers, wholesalers, jobbers, mail

order houses, and so forth. There could be others and these will vary in importance with different businesses.

I think, as a first step, it is desirable to determine the primary distribution. Say, for example, we decided in a certain business that the primary distribution should be by products or classes, and the secondary distribution should be by territories from which the business is obtained. Those accounts would be set up in the regular ledger. Further supplemental breakdown could be made if and as warranted. With that as a start, charges from invoices, and from other media, including journal entries, could be distributed directly to the accounts in the ledger representing product classes broken down by territories. I believe this gives basic information which is very desirable in management's study and control of selling costs, and, whenever it becomes necessary to go into further analyses because of complications under the Robinson-Patman Act, you have a very good start. Then you can proceed from that point with much less difficulty and to whatever extent is necessary under the circumstances. As was brought out in one of the talks at the Chicago convention two years ago, a certain concern cited under the Robinson-Patman Act spent about \$60,000 and had a vast force digging into past records trying to build up information necessary for its defense which was most difficult to compile at a subsequent date.

CHAIRMAN TAGGART: That is very interesting. Having spent much time on Robinson-Patman problems, I am inclined to agree with the last speaker. I don't think, however, there is much fundamental disagreement between you gentlemen.

MR. AUSTIN: Mr. Naylor raised the question of the distribution of general administrative expenses to production and distribution. Mr. Giddings has been talking about accounting for distribution costs.

I still hold that it is a great saving of time and expense to state our general administrative expenses as general administrative expenses, without an attempt to arrive at a predetermined part thereof to be charged to distribution expense.

CHAIRMAN TAGGART: The Program Committee allotted us an hour and a half to discuss the entire subject of overhead from A to izzard. We started a little late, and it is now time to close. I think the discussion has been worth while, but obviously we have scarcely

scratched the surface. There are endless problems that can arise in these fields.

I would like to leave with you a little problem that somebody put up to me once in connection with this idea (which I think has a good deal in it, in spite of Mr. Austin's feeling in the matter), namely, that all costs are either costs of production or of distribution.

Here was a company whose secretary was a kindly, white-haired, old lady whose entire duty was to attend the annual meeting of stockholders and go through the motions of taking minutes, at which she spent perhaps half a day in the course of a year. Her salary was \$5,000. How would you like to distribute that between distribution costs and production costs?

I am afraid we will have to close. I am much obliged to all of you.
. . . The meeting adjourned at three-twenty o'clock . . .

NORMAL BURDEN AND BURDEN VARIANCES

Chairman: CECIL M. GILLESPIE

Professor of Accounting, Northwestern University,
Evanston, Ill.

CHAIRMAN GILLESPIE: The meeting will please come to order. I think everyone has been provided with an outline of questions.

You will notice that the questions are divided into four groups:

- (1). Normal burden and normal capacity
- (2). Normal management and management responsibility
- (3). Analysis of burden variances
- (4). Disposition of unabsorbed burden

These questions by no means cover the entire field of normal burden and burden variances, and, as a matter of fact, the questions listed are purely suggestive. It is assumed, however, that our discussion will not transgress the field of discussion earlier this afternoon in Professor Taggart's session.

I may suggest, with reference to these headings, that the first and fourth represent what we might call "debatable questions." The second and the third respond to debate and to "how we do it" treatment.

I have also provided a list of excerpts from publications of the National Association of Cost Accountants on the subject of normal

burden and normal capacity, and on the subject of disposition of variances. As you read the literature published by the Association you find that there are distinct schools of thought and an appreciation of the schools of thought is necessary to round out ideas without confusion.

The schools of thought in regard to normal capacity are: first, practical capacity, and second, average capacity. In your excerpt list under Part (a), you will find a definition of "normal capacity basis," as construed by the practical capacity school. This definition is rather interesting in that it sets up a landmark in our technical discussions of burden. I know many of you recall, some of you having attended the Convention of 1921, and many of you having read the Year Book of that Convention, that this particular definition was voted upon by a committee, of which all but one voted that by "normal" we mean a "practical" capacity basis. Of course, that vote by no means settled the issue, because ever since the earliest authorities on burden distribution, Emerson and Church and the rest of them, there has been a continual argument on the subject of normal burden.

The list of excerpts also includes a definition of "average capacity." I am not sure that the term "average capacity" is a very good one, because the name gives little hint of its meaning. "Average capacity" is defined, roughly, as "the expected sales over a normal cycle in the future."

Now those are the two main schools of thought, and, of course, once you have identified your school of thought, you have also identified a whole train of concepts. With reference to "normal burden," for instance, you have raised, if not settled, such questions as (1) how much burden shall be included in costs as a basis for selling price and (2) how much burden shall we segregate in one way or another as unused capacity cost?

While we are defining the "normal burden" schools, we must remember that there is a large group of cost accountants who do not adhere to either school in practice. These cost accountants operate their burden applications on the basis of either an actual rate, or a rate that is projected over such a short period in the future that you can hardly call it a normal rate.

Dr. Marple made a very interesting and very complete study of normal burden, making use of the questionnaire method. In his questionnaire, Dr. Marple asked how many were computing their

rates on the basis of a relatively short period, say less than a year, and a surprisingly large number reported that they were computing on that basis.

I have presented these excerpts, not with the idea that they are conclusive, but simply as focal points. As a matter of fact, in taking an excerpt from any article it is very difficult to be absolutely fair to the author, assuming, as is the case, that you are attempting to catch the major point of his argument in just a few sentences.

Therefore, I don't want you to regard any excerpt as being a complete statement of any school of thought. I present these excerpts as possible starting points for the discussion this afternoon.

I may mention, incidentally, that it has been very interesting assembling these excerpts, because as you go through the literature of the Association, you find that the economic and political situation has affected the current thought on the subject of burden. I suppose it might be correct to say that when a severe depression comes along and the actual burden rates become very high, the sales department asks for a normal rate. Also, when the N.R.A. came along we found a great deal of discussion of normal based upon the level for the industry.

I think from now on, for a certain period, the present political situation and economic situation is going to make itself felt. For instance, it may be time for us to re-examine our concepts of normal burden in the light of government orders or war orders. Are we going to continue to accept the basis we have been adhering to in the past, or are we going to have to change to something else?

I think we might start the discussion with an expression of opinion on normal capacity.

PRACTICAL CAPACITY AND AVERAGE CAPACITY

HOMER W. STANHOPE (*Cost Accountant, Anheuser-Busch, Inc., St. Louis, Mo.*): In our experience in the brewery business, using normal capacity or practical capacity only adds an additional variance which has to be explained to the management. In other words, I find this: If we use the expected capacity based on our estimated sales volume, in answering the questions of the management, we have only one question to answer, and that is the difference between the actual cost and the budgeted cost based on the planned production deter-

mined from planned sales. Therefore, I favor leaving out any calculation based on normal or practical capacity.

However, in another division of the business I am more in favor of using a normal basis. In this department the sales and production fluctuate from year to year, and I am in favor of using a normal capacity for the pricing of finished stock in inventory and charging to profit and loss any under- or over-absorbed burden. If production goes down to, say, 50 per cent of the expected volume, we don't want to double the burden in inventory, so that it seems to me we should use normal capacity in this particular department throughout the year. However, if in the next succeeding year we find that the expected volume is, let us say, 50 per cent of the previous year's expected volume, and in line with the actual production of the prior year, we would then determine the burden on the expected volume for the year, and adjust the values in inventory at the beginning of the year to the rate determined, which would be used in the succeeding year.

NORMAL BASED UPON LEVEL FOR THE INDUSTRY

HARRY E. HOWELL (*Controller, Grinnell Co., Inc., Providence, R. I.*): In defense of the Association which, in 1921, came out with this pure logic concerning capacity, you must remember that since then we have had the N.R.A. and the theory of eliminating sales below cost. Many industries got together and discovered that practical capacity, unless they all cut each other's throats, was about 55 or 60 per cent of the potential capacity. While N.R.A. has passed out of existence, many concerns feel they should figure their capacity on what they would normally expect to get at a reasonable price, without taking away from the other fellow, and not on a maximum capacity they couldn't hope to achieve unless they destroyed the market. Now whether that is a cost accountant's problem, or a problem in the economics of price selling, I do not know. That might be the reason for the very decided change in opinion from the 1921 basis.

PROSPECTIVE WAR CONTRACTS

EDWARD C. KARMGARD (*Accountant, Cleaver-Brooks Co., Milwaukee, Wis.*): I would like to inquire whether normal capacity should be based on one, two or three shifts?

CHAIRMAN GILLESPIE: That's a very good question, particularly in view of the present possibilities of war work. We might raise the question as to whether our concept of practical capacity is going to change in view of this new situation. What are we going to do if it seems that we are going to add another shift or two?

HERBERT J. MYERS (*Controller, Farnsworth Television & Radio Corp., Fort Wayne, Ind.*): I think the matter of shifts depends entirely on your industry. As we all know, some industries run one and others run three shifts continuously. They have to. What is normal depends on what your industry is.

As you know, a paper mill runs until they change felts. They run continuously twenty-four hours a day. Most other industries run eight hours a day. I think that is a starting point.

LAWRENCE W. DOWNIE (*General Auditor, Kelsey-Hayes Wheel Co., Detroit, Mich.*): It seems to me that your basis for figuring your normal capacity for burden purposes would not change due to the acceptance or rejection of war order business. Your regular commercial business should be established normally for a long period of time. I am speaking here, of course, of the normal capacity for burden rate purposes. For the commercial business we have to establish these rates for a substantial period of years. If we have some excess capacity which is available for war order business, it is assumed that the cost of maintaining that excess capacity has already been divorced from the burden rates for your normal commercial business, and if that is the case, then the war order business would not have any effect.

I should not think that it should have any effect, at least on the burden rates to be used for the establishing of selling prices in your regular commercial business. Undoubtedly, so far as the government is concerned, we will have to lower the total overhead rate for the entire plant and give effect to the reduced rate for the war order business. I think we will be called upon to do that. I think industry should be very careful not to disturb an established procedure in price structure due to the acceptance of war orders. If we do, we will be lowering our price levels to a point where, when the war orders cease, we may find it rather difficult to bring those price levels back to a profitable range again.

In answering the question of whether burden rates should be based on one, two or three shifts, I am inclined to agree with Mr. Myers.

Your industry will have to determine that after you have determined your normal capacity. Your normal capacity, after taking into consideration your ability to market your merchandise and collect the money for it, gives you the volume of business your factory can be expected to produce. Then you must determine how many hours of labor that volume requires for your factory. If it requires one shift, then it seems to me that your normal capacity should be considered one shift, and burden rates should be established accordingly, unless you find it possible to go out and get additional business to run a second or third shift, at which time I think the situation should be reviewed and adjustments made.

CHAIRMAN GILLESPIE: Mr. Myers and Mr. Downie belong to the average capacity school of thought.

TAX QUESTIONS RELATED TO USE OF CAPACITY FOR WAR ORDERS

EDWARD P. GILLANE (*Works Accountant, Underwood Elliott Fisher Co., Bridgeport, Conn.*): I believe that for any company which has not been engaged in three shifts, and which may find it necessary to do so as a result of obtaining some government business, it would be in order to increase the total burden, based on a utilization of the equipment. I believe the depreciation should be increased because the machinery will have a much shorter life and will have to be replaced sooner than if you remained on a normal, regular eight-hour shift. In my opinion, this increase in burden should be allowed under the Vinson Act.

CHAIRMAN GILLESPIE: Is there another contribution on that question?

MILTON A. FELDMANN (*Resident Partner, Peat, Marwick, Mitchell & Co., Milwaukee, Wis.*): If, as suggested, the normal rates remain the same, although additional business may be secured for war orders, what disposition should be made of the overabsorbed burden which will naturally result from the increased volume? Shall it be carried over to profit and loss, written off, or carried as a reserve against future probable underabsorption due to conditions which will result after the war order business drops off?

JOHN P. POWELL (*Cost Department Head, Marshall Field & Co., Manufacturing Division, Spray, N. C.*): I would say that in that case the government would make you charge the overabsorption off to profit and loss, as this is one of the purposes of the excess profits tax.

MR. FELDMANN: How will you allocate your overabsorbed burden to war order business under the standard cost method?

MR. HOWELL: Mr. Russell pointed out yesterday, I think, that you would have to keep a record and presumably you would know the number of hours spent on commercial work and on government business. You divide your total burden by the regular and see what your rate would have been if you did not have the government contracts. Then you have the effect of the war business, and you would not only have to show it in profit and loss, but you would also figure this excess as a reduction of the cost of the government work. That excess has to be put right back into that contract to show the true cost.

MR. FELDMANN: I am thinking of smaller organizations which may not fall under the Vinson Act, but will get an increased volume of business under the \$10,000 limit.

MR. HOWELL: I think the other gentleman can answer that. The excess profits tax, applicable to all taxpayers, is to take care of that.

SHORT TERM VOLUME VARIATIONS

JOHN C. NAYLOR (*Vice President, Pet Milk Co., St. Louis, Mo.*): I would like to ask a question. We have been discussing the yearly variations of volume. I would like to hear some consideration given to the seasonable variations; in other words, where accounts are prepared quarterly, but due to the nature of the business such as ice, ice cream, or some novelty, the heavy sales and production occur in one quarter as against the other three quarters. Would you equalize that condition and decrease the profits for the good quarter, decreasing the losses accordingly for the other quarters, or let the burden follow the operation so that when you have large sales volume you would have a large profit?

MR. HOWELL: I don't know the answer to that. There is just one thing I skipped over because it wasn't of particular interest to me. In a ruling of the SEC there was a company that was confronted with exactly that same situation. They had a very high peak seasonal period. They took some of the expenses in the early part of the year and deferred them until the period when they had the peak, and the Commission said, "You can do it any way you like, so long as you disclose it." They made them show at the end of the given period, total expense of all kinds, carried forward, charged off, "carried to our seasonal period," etc. If there is any point in all this, it is that we are never going to find the answer, but we can always disclose fully. And if we do that, I don't see how anybody can complain.

EXCLUDING STANDBY EXPENSES FROM COST SCHEDULES

MR. MYERS: I would like to ask a question based on the first discussion this morning. It seems to me that the idea injected in that discussion of absorbing, as I take it, only the variable items of expense into our cost, would, to a certain degree, do away with this troublesome subject of "normal burden" because it throws into a separate category most of the fixed expense.

I would like to know if anybody has attempted to use that method. I recall reading a bulletin several years ago on that subject. I don't recall who the author was, and I didn't attend the Cincinnati Convention. I understand it was discussed there. I would like to know more about it. I believe it has some very definite possibilities.

CHAIRMAN GILLESPIE: The following excerpt from the list which has been distributed is from the article by Jonathan N. Harris to which you refer:

"Therefore, I am going to make a radical suggestion for your consideration and future discussion. I am going to propose that we begin working toward the complete elimination of all fixed charges in all cost calculations, and that instead, costs be computed on the basis of direct or variable costs only."

Mr. Gardner has some ideas on the separation of fixed and variable expenses. Will you tell us how you separate them, and why you do so, Mr. Gardner?

FRED V. GARDNER (*F. V. Gardner & Associates, Milwaukee, Wis.*): I think in the meeting this morning Mr. Howell gave us the

keynote on the question you just raised when he said that overhead or burden, whatever we are going to call it, should be a given amount per month to cover fixed or standby items, plus a rate of overhead to cover current expenses. That's about the question that you specifically asked: "How can we handle overhead in such a way that standard current costs only are included in the variable portion of burden or overhead?"

I was hopeful that before we entered this discussion we would establish what normal rates were, but apparently everyone here is shying from the opening of the discussion as to what constitutes normal as well as where and how normal rates should be established. Let us consider the thought that has just been referred to. At a given volume, which we consider "normal," we have established a normal rate of overhead, or in other terms, a so-called normal rate of expense or burden. To make our case specific, let us consider this rate to be 150 per cent in a given department, that is, 150 per cent of direct labor dollars, or hours, or whatever base you wish, but 150 per cent of our liquidation base, to keep our case easily understandable.

Now a standard cost is usually determined by a certain material content and a given amount of productive labor, together called prime costs, and, in addition, a certain amount of overhead (which may be absorbed on an actual or normal rate). These three items make up manufacturing costs, or the cost of goods sold.

The point I wish to bring out here is that if we now go back to the fundamental opinion discussed this morning, i.e., that of segregating the rate of overhead into two elements, we will be able to answer many of our problems of costing. We will be able to carry out this thought that was given by Mr. Harris.

Look again at this rate of overhead of 150 per cent which I spoke about. Let us examine its elements and say that, at a given point of operation, variable costs make up 75 per cent, or half of our rate. The balance, then, is what you call *fixed costs*, and what I call *standby costs* (because there is a difference, in my mind, in the interpretation of "fixed" and "standby"). Your burden rate, therefore, is broken down between variable costs (75 per cent) and standby costs (75 per cent).

Continuing our hypothetical analysis, we find that one-third of the standby is controllable standby, such as the cost of watchmen, supervisors, etc. Another one-third represents other controllable standby

such as light, heat, supplies and similar costs, and the remaining one-third is depreciation and other so-called fixed charges. My thinking diverges from the ordinary conception of "fixed costs" in this first and second portion which I have called "controllable standby."

If you keep this in mind and separate your rate of overhead into standby and variable elements, then your standard cost, to my mind, should be composed of material, labor and variable burden. The standby portion of overhead should be handled in costs as a definite dollar amount to be distributed on a readiness to serve basis and not as a percentage of current overhead.

I will tell you why I advocate this method. Since your variable overhead is in direct proportion to your output, it always amounts to the 75 per cent rate, if you control it currently. Therefore, it becomes constant to your output. The standby portion which made up the other 75 per cent varies in its percentage relationship to output because it is a fixed amount of money. It is this element, therefore, that may cause tremendous over- and under-absorbed burden. It is this amount which actually varies with changing conditions percentage-wise.

A good share of our burden problems will be solved if, in setting normal rates of overhead, we make a clear-cut distinction between these two elements, variable and standby (or fixed) burden.

We handle the variable portion of overhead as we would any other variable item. We handle the standby element as a relative charge of a given amount each month, or for the year, depending upon how we carry our costs.

MR. MYERS: If we decided to handle our overhead on that basis, I don't see why we should put any standby expense in our costs at all. Why not treat them as a separate item? It would seem to simplify the problem. You wouldn't need to worry about over- and under-absorbed burden at all.

MR. GARDNER: I don't quite agree with you. You would still have some variance which would be due to your inability to meet your variable costs each and every month (budget realization).

MR. MYERS: That is your expense variance.

MR. GARDNER: Yes that is your true expense variation. It should be written off each month because it applies to the month, whereas your standby costs do not apply to the month or period in question. I am 100 per cent behind you if you get that standby out altogether. When you do, a lot of problems will float away and disappear because of good control instead of making for "unexplainable red" on your books.

TREATMENT OF STANDBY EXPENSE DEPENDS UPON USE OF COSTS

ALFRED S. KAYSER (*Public Accountant, San Francisco, Calif.*): I think Mr. Howell brought out the point quite properly this morning that it depends on what you are developing costs for. I think that question has been raised, and his comments cover that point. So far as determining selling prices is concerned, we should know what our complete costs are, including all overhead.

I had some practical experience with this problem on the Pacific Coast, with one of the larger manufacturing companies, where we did very much as suggested here.

We broke our standards down into two parts, the variable and the fixed. The variables included those costs which were controllable, or should be controllable, by the various superintendents and foremen.

For figuring costs from an efficiency standpoint, the variables were the only costs we used. The actual variable expenses were compared with the variable standard setup. All other so-called standards for overhead, or your standard costs, were calculated each month, but we didn't attempt to break them down as to products or departments. We simply credited the standard allowance placed on the products to one particular burden account and charged that account with the actual overhead expenses for that period. We then had a measure of efficiency, so far as our production departments were concerned, based upon the expenses which were really controllable, and we had another account in which we had a measure of the over- or under-absorption of the standard burden rate, which was due solely to fluctuations in our production volume.

KENNETH J. FINGER (*Cost Accountant, Hummer Manufacturing Co., Springfield, Ill.*): How do you analyze the standby and fixed expenses by products?

ANALYSIS OF VARIANCES BY LINES OF PRODUCTS

CHAIRMAN GILLESPIE: Is it desirable and feasible to analyze variances by lines of product? I would like to hear some discussion on that point.

MR. MYERS: That problem has been one of my pet hobbies. I have always claimed that variances have little or nothing to do with the product, if your standard costs of material and labor are properly built up, and I frequently refer to such an illustration as this to emphasize that point:

Suppose I am running a punch press. I become careless and let the belt slip, thus lowering its productive efficiency. The following day, somebody catches me with the slipping belt and fixes it so that I get the standard production on whatever I am running through that punch press on that day. Now there has been a certain labor and overhead loss on the job that I ran the day previous. On the following day I may run an entirely different job or run the same job.

Is that a cost chargeable to the product that happened to be going through the press? I say not. That is a cost of a slipping belt. This is just one illustration, and I feel frankly that all of the variances will fall almost in that same class.

MR. FINGER: We have the following five burden accounts by products: scrap, rework, depreciation on tools and dies, maintenance of tools and dies, and labor allowances. In our case we find that scrap and rework are much heavier on certain classes of products requiring closer tolerances and finer workmanship.

MR. HOWELL: That seems to be a very intelligent thing to do. I am wondering whether you think material price variances, where you have a number of materials, might not be further analyzed. In other words, price or rate variances would be analyzed, but no usage variances except scrap and tools and dies. If you have a variety of products you should assign variances to particular groups, but beyond that, I agree with Mr. Myers, perhaps it is not the fault of the particular product that it happened to run through at a particular time.

CHAIRMAN GILLESPIE: I might mention at this point that there is an excerpt in the list which seems to lean in the other direction, in

the distribution of variances, say, to lines of product. It is on the second page, third from the bottom:

"The question of handling unabsorbed burden due to excess of actual cost of fluctuating expenses over the amount absorbed at predetermined rates is a more difficult one. It is more likely here than in the case of fixed charges that the differences may be due to faulty estimates or legitimate causes and that the entire amount may not be due to wastes, extravagance, or abnormal normal expense."

"Fixed charges" means "standby."

MR. GARDNER: Thank you.

CHAIRMAN GILLESPIE: As I read that, I think the author was suggesting that some of your spending variances should be distributed over products. Is there any comment on that?

MR. GARDNER: Do you mind if I make one more suggestion?

CHAIRMAN GILLESPIE: Certainly not.

MR. GARDNER: The whole process of cost accounting is a process of distribution from the departments to the line of product. A department charge provides the basis for control. The production charge gives unit costing, so that we can relieve inventory.

Now let's forget these new ideas as to whether standby costs should or should not be in the inventory. Let's assume they should be. But let's assume also that we are going to isolate the two elements.

In controlling expenses, you have standards set that give you departmental control of your over- and under-absorbed burden. This control of over- and under-absorbed burden can be broken down between the variable portion and the failure to absorb all the standby costs. This latter portion is due to failure to have enough load to absorb your burden.

This is important thinking when you have more than one line of product.

However you make the segregation, it gives you a better impression of the weight of the underabsorbed burden on any one line. Under our present method of cost accounting, the departmental rate includes standby expense, and the use of a normal rate of overhead may result in charging a line that is up at the moment with the ex-

penses of a line that is down. That happens too often in cost accounting.

Using standby and variable rates keeps your standby costs isolated. By carrying them by lines on a fixed basis, you put the pressure on a line that is down much quicker.

CHAIRMAN GILLESPIE: Mr. Gardner belongs to the group which insists that, to make the sales manager conscious of his obligation to sell capacity, the accountant should analyze unabsorbed burden to lines of product. This will reduce his gross margin, or even make him show a red figure. Mr. Gardner thus analyzes all unabsorbed expense (not simply the expense variance). This thought is opposed to the one which seeks the same result by giving the sales manager a statement of unabsorbed burden by departments without analyzing by products.

We have discussed the question of what is normal level and we have introduced a discussion of the extent to which standby expenses should be excluded from cost calculations. Should we exclude standby expenses from inventory valuation on the balance sheet?

EXCLUDING STANDBY EXPENSE FROM INVENTORY

MR. GARDNER: My answer to you is this: We have a lot of work to do before we enter upon these phases, but I think that as time goes on the very questions you raise will be leading questions at these conventions.

I was very much interested in the meeting this morning for many reasons. I learned a great deal, and I also found that the speakers talked standby and variable costs all the way through. You didn't hear that four years ago.

Now if this standby cost is considered as it should be, a separate element, it shouldn't be included in inventory valuations at all. But we have ways to get around that in accounting. At the end of the year, if we have an overabsorbed burden we write it off as a profit to keep it out of inventory. If underabsorbed, we try to bolster our inventory simply because we had a normal rate of overhead based upon an activity we did or did not have. Presumably, we did not attain the degree of activity which we considered "normal."

My contention is that if you include only the principal costs of material and labor, plus variable burden in cost of sales and in in-

ventory, you will keep your inventory values closer to a sound value, and your fluctuations in inventory will be much smaller as your inventory changes.

For example, when production is greater than shipments, you won't overstate your profits. But under present methods, by carrying the full burden rate when you are above normal capacity, or above the breakeven point, you inflate your inventory. You pick up profits this year as overabsorbed burden—profits which next year, if you don't get sufficient production, will have to be shown as a loss.

I would answer your second question by suggesting that you charge standby costs directly to cost of sales each month. The cost gets into cost of sales, to be sure, but as a separate item, and as you suggested, would be maintained as a separate item all the way through costing and profit and loss accounting.

In some cases we have gone one step further. We have charged these costs to the selling department.

I believe that the first thing to do is to isolate these standby costs. I don't care whether you charge them to production or to cost of sales, but isolate them and you bring a new approach to your whole problem.

CHAIRMAN GILLESPIE: Mr. Gardner includes only the variable elements in inventory. Standby expenses are charged separately to cost of sales or to profit and loss, say monthly. There ought to be some questions on these points.

ALBERT E. WILSON (*Cost Accountant, Imperial Paper & Color Corp., Glens Falls, N. Y.*): How many members here price their inventory at variable only?

MR. HOWELL: The only company I have heard of is the company Jonathan Harris is with (Dewey-Almy Chemical Co.) and they do carry their inventory at the direct and variable cost. The objection to the method is that it understates the inventory to some extent. You must adjust your profit and loss and income tax figures and everything else when you follow that method.

MILTON VOGEL (*Editor, La Salle Extension University, Chicago, Ill.*): It seems to me the position taken is one of expediency. If you carry the matter of expediency too far you can do away with almost all cost accounting. The fact remains that a plant is built for no

other purpose than to do a normal volume of business. That is an economic fact. We don't go into business unless we assume that we are going to have a certain volume of production, and the result of that volume of production is these fixed or standby costs. They are directly related to a normal production volume that is expected to keep that business alive, and I don't see how you can separate fixed costs from the other costs. They are part of costs and are attributable to operation. If your plant remains idle too long, you will not have a plant, and consequently I think you must include your fixed costs, no matter how difficult it is.

CHAIRMAN GILLESPIE: Mr. Vogel opposes Mr. Gardner. Mr. Vogel would include standby expenses in inventory, at least to the extent of a normal application. His argument sounds like the arguments in favor of practical normal capacity.

MR. HOWELL: You say if you don't have any operation you don't have a plant. What happens to it? We have had one for ten years.

MR. VOGEL: I am referring to the business as a whole. The assumption is you are going to do a certain volume of business. In doing that you incur these fixed costs, and you can't charge them into profit and loss—it distorts inventory and profit and loss. You can't divide them by twelve—that denies the very function of cost accounting, which is to charge your expense according to production and not according to time elapsed.

MR. GARDNER: Why does that violate cost accounting? I ask the question sincerely. I want to get your reaction.

MR. VOGEL: I think you must endeavor, in cost accounting, to get the truth. You can't just say, "this is hard to do and consequently we will not do it."

The fact is that business incurs expense; it pays rent. What does it pay rent for? Isn't a product to be charged with that rent? Is that a profit and loss charge to be put after the gross profit? I don't think so. I think the products made must absorb that rent on a normal basis.

MR. MYERS: I think the whole question revolves around what we keep costs for. We used to think we set up cost systems to try

to get down to a very small fraction of a cent what the cost of a product was. In recent years we have switched over to the primary purpose of maintaining cost accounts for the control of operating costs, and even in this particular case we are charging this into the cost of sales.

I don't see anything wrong with that, and when we do no business we see instantly how much it costs us to maintain these plants, which I think is one of the most important things management wants to know, and it is our job to serve management. In so doing, we serve them in a way we failed to do for many years.

I don't think it is a question so much of what we have been doing, or who is doing a certain thing. We should go on record for something that is an advancement of the art, and I definitely believe this is one of the things that points in that direction.

MR. DOWNIE: It seems to me that both of these gentlemen have brought out a point. I am not so sure they are so far apart as it may seem. Mr. Vogel stated that when you start you anticipate a certain volume. Let's assume for the sake of argument it is a \$100,000 a month business. We expect that will be our normal volume. I don't care what you refer to as normal; that's the amount of business you expect to do, not for just one year, but for as long as you are in business. If you didn't expect to do it, you wouldn't put your money in it in the first place.

You line up your equipment and building and everything else necessary to produce \$100,000 worth of business a month, and your cost of producing \$100,000 of business is your fixed or standby cost and your variable cost, regardless of how you put it into your books.

Now it seems to me, if you are doing \$100,000 of business, you will absorb all of your burden and you won't have the problem of what you are going to do with excess capacities or anything else.

We reach this problem at the time when our volume rises above, or falls below, this expected volume of business, or the normal capacity, as we call it, namely \$100,000 of business each month.

Now let us assume, for the sake of argument, that we do not do quite \$100,000 of business in some one month. Our variable expenses drop in proportion, so that we have no problem there. Our standby or fixed charges do not drop, and therefore we have an underabsorbed portion, and as I see this picture, it is only a question of what we will do with that portion.

It seems quite a simple matter to carry through your books your predetermined normal burden rates, which give you true costs that can be used for all internal purposes, including sales and cost analysis by territories, salesmen, etc., and by products, and also reflects instantly the unabsorbed overhead due to the volume factor.

Now unabsorbed overhead in most factories, I assume, is analyzed to determine causes. Let us assume your actual business, all the way through, is according to your original prospect picture, except the volume. All your cost factors are the same. Therefore, the only fluctuation in your profits would be the unabsorbed overhead, due to the volume factor. I have boiled it down to one question for simplicity.

Your statement and analysis of over- and under-absorbed burden would simply show you the amount of excess standby cost that you had that month in relation to your volume of business. It seems to me you have just about all that management needs. You have your true costs, the costs on which you are willing to stay in business for years to come, upon which sales departments can predicate all selling prices, and on which you would be willing to pay commissions and bonuses to salesmen and organizations. You have also reflected for your management, their loss of profit through the unabsorbed burden accounts, which is explained to them in detail simply as lack of volume, and you have thrown back into the sales department's lap the excess capacity that they contracted for and failed to deliver to the manufacturing department.

There is nothing new about that procedure. It is followed, I dare say, by the majority of the members here. It seems to reflect all we need to reflect in our books.

MR. HOWELL: Mr. Downie, on that point, I think if you will start on the assumption that "doing a volume of business" means sales and production for a month running exactly concurrently, there is actually no argument. But business doesn't run that way. Your sales will be soaring this month and production won't be in line at all. You may, for a variety of reasons, build an inventory although sales are going down and vice versa. It is the effect of the inclusion of fixed costs in the increase of inventory, or the decrease, that, unless it is separated, reflects in the profits and causes the profit and loss statement to give an incorrect picture of the results of current sales.

In other words, going back to Mr. Myers' point of view, if we are

willing to say, as we were taught in bookkeeping, that the profit and loss statement should reflect the profits on the sales completed this month, and the expenses spent this month, then I agree with Mr. Myers absolutely. I can agree with you if it happened to work out in your case that doing business meant the sale of the exact amount produced. But when there is a difference in the inventory, then it seems to me, its effect on the profit should be reflected separately.

MR. DOWNEY: I assume your profit and loss statement will automatically reflect your production and your sales. I think it should definitely reflect that activity, and it can be done quite easily. I believe you have very few concerns producing the same amount of material each month as they sell. But working to predetermined standards, you automatically obtain the profit, or standard profit we will call it, in relation to the sales, and then, following down on the profit and loss statement, there can be a breakdown of the changes in your profit and loss due to your volume factor in the plant. I agree with you on that completely. I was just talking from the point of view of throwing out of our statements and out of detail costs, a goodly portion of overhead such as standby costs.

In some concerns the standby charge might be even larger than your direct labor and all of your variable overhead combined, and it seems to me that we are treading on rather thin ice, if we attempt to exclude any such large portion of our cost from the detail cost statement which would be used throughout the organization for selling price purposes, or anything else. It can be handled on a subsidiary statement.

We are dealing now with the cost records, not cost control, and I believe the cost records must reflect, as nearly as possible, your total normal cost on which you are willing to take business, with the idea of making a profit.

Now coming back to the question of this morning, I agree with you that your statement must readily reflect how much cost you would have, even if you do turn down business, but a subsidiary record will do that quite easily. In fact your departmental overhead statement would give you that at a glance. Is that pretty much along the line you took?

MR. HOWELL: I have not worked out answers to the questions I raised this morning. I hope that will be done in publications written

by those who study the paper in the Year Book. The main theme is "no matter how accurate it may be for cost-finding purposes, the figure arrived at by cost accounting techniques is not necessarily accurate for all other financial, pricing, and accounting purposes."

MEMBER: I am wondering if, instead of taking one-twelfth of total standby expenses each month, we couldn't compromise by varying these costs with the volume of production. I would not like to see floating around the company's offices, a cost which is so big an item as was pointed out. It seems to me the same thing could be accomplished, and still avoid your overabsorbed and underabsorbed burden.

You could still have a set of records available that would show what I would call "true costs." I don't believe you could have a true cost without some fixed costs for land and buildings and machinery. We are responsible for them. It seems it could be worked out so that you could do both things.

MR. GARDNER: The answer to your question, to my mind, might be as follows: I know a company that uses the method we have talked about, and in their normal rates of overhead they determine for each cost that part which is variable and that part which is standby. There it is. The standby is part of the over-all burden percentage. After that you do as you please. Sometimes we forget that underabsorbed burden is more than a red or black figure. It is a managerial control if correctly handled. Therefore cost control must be tied in with cost. Cost control may involve details of production, but it will involve the details of the burden that has to be liquidated by a burden rate, and if that cost control ties up closely with your cost, you will be able to get a lot of answers for your management.

MEMBER: I think I must have misunderstood. I thought you said this one-twelfth never appeared under final cost, and didn't get there until cost of sales.

MR. GARDNER: No, you can handle it either way. I say isolate it and keep it separate all the time.

MEMBER: I thought you were going to publish the cost and then add to the cost of sales one-twelfth of these so-called fixed.

MR. GARDNER: In the cost it is always going to be a per cent because of your normal rate of overhead which considers standby cost at normal.

MEMBER: In other words, it will show expense for land, buildings and equipment, but this is not considered when you figure your variable.

MR. MYERS: I want to emphasize that point too. I did not intend to imply for a moment that in your unit cost, you ignored this standby cost. I am talking about the profit and loss statement for control purposes.

Let us get back to this matter of showing under- or over-absorbed burden, and analyze it to find out whether it is due to volume. I have advocated this analysis for a good many years, but have used the standard cost setup. However, I happen to have been connected with a business where I have seen practically no sales in one month of the year, and some heavy production in the same month. This company went from practically no sales inside of three months to a month where they sold 25 per cent of the total annual sales in a single month with much smaller production than sales. Because I have had that experience, although I have been a strong advocate of standard costs for years, I am favoring this other method.

WILLIAM L. HAUSMAN: (*Resident Manager, Barrow, Wade, Guthrie & Co., St. Louis, Mo.*): I think I understand that the so-called fixed costs are not to be included in inventory to any extent. If fixed burden has no place in inventory, I can say that, as the auditor, I might regret having recommended to a new client that they adopt that plan of inventory valuation for 1939 when the tax rate was 18 per cent, and then have my client come along in the next year and say, "Suppose you had had my inventory set up at a figure including the fixed burden, would it have increased the inventory?"

"Yes."

"Would that have decreased my profits in 1940 on the sale of those commodities?"

"Yes."

"I have to pay 19 per cent plus 10 per cent on top of that in 1940 on the increased profit because you did not include the fixed costs in inventory in 1939?"

"Yes."

He probably would then say, "We will get a new accountant next year."

MR. GARDNER: I don't see the point, if it is the same amount each year.

MR. HAUSMAN: It may work out that way theoretically, if you have the same inventory at the end of 1940 that you had at the end of 1939. As your inventory increased or decreased, it might have a different effect.

MR. GARDNER: That's quite true, but we are talking about normal production.

MR. HAUSMAN: I feel quite sure, if you take paper and pencil and work it out, you will find that my client could have been penalized to the extent of 1 per cent plus one-tenth of 1 per cent and they don't seem to like it.

MR. GARDNER: Have you actually taken paper and pencil and worked it out?

MR. HAUSMAN: Yes.

MR. GARDNER: We have in several cases and it is our conclusion that if the standby cost is a fixed amount, say, \$100,000 a year, it doesn't matter. It is out of the picture so far as your inventory value is concerned because it is always a given amount of dollars.

MR. HAUSMAN: I was thinking about the effect upon a new company. My theory is that the plan would certainly resolve itself into additional taxes at some date, which might equalize over succeeding years, except as affected by increases in the tax rates.

MR. HOWELL: If you will look at Exhibit 10 in the illustrations for my talk, you will see that I attempted to do this; in the first section I show what the profits would be by the direct cost method, eliminating the effect of fixed costs and inventory by charging off all fixed costs, and in the third section I show the effect of an increment to inventory.

ABSORBING ADMINISTRATIVE AND SELLING EXPENSES

RALPH W. SEILER (*Accountant, Crane Company, North Tonawanda, N. Y.*) : I was wondering whether anyone here takes administrative expenses and moves them up and down as the seasonal index changes. Usually you consider your administration costs in twelve equal parts, and in our particular business we run on a close margin. It seriously disturbs management when we run into a great loss in certain months of the year, and show abnormal profit because of those constant costs.

A. OLIN DOFFORT (*Controller, Baldwin Laboratories, Inc., Saegertown, Pa.*) : We have a similar problem, our season being very short, as we ship practically our whole year's business in three months in the Spring. Of course, we make shipments monthly, but a very large percentage of it goes out during the months of March, April and May. I have endeavored in the past to try to make monthly income and expense statements which prorated selling and administrative expenses to the months when the shipments were made, by setting up deferred accounts as expenses were incurred and making monthly charges against the sales based on budgeted expense and budgeted sales. A more careful study, however, showed us that these monthly statements were valueless, in that, while the actual expenses were first charged to the expense ledger before they were deferred, we were not getting proper control of expenses. Therefore, we have set up all our budgets and statements, realizing that for most of the months during the year we should operate at a loss, and for certain other months we should operate at a profit, the total of which should more than offset the losses.

CHAIRMAN GILLESPIE: By "deferred" I assume you mean administrative.

MR. DOFFORT: Both sales and administrative expenses were deferred. Our salesmen begin work five or six months before the actual sale is made. We also do a great deal of advertising early in the season. At first we tried to defer these items as mentioned previously, but with the amount of sales derived from reorders during August and September, which are sent to us voluntarily by the jobber

after the salesman has worked the territory, it is practically impossible to make an accurate estimate because weather conditions have a very definite bearing on the consumer use of insecticides. We found that the monthly amounts which we were charging to operation from the deferred account were not accurate and that the last two months of the year would have to take up a number of adjustments. Certain expenses, such as salaries of specialty salesmen, also were very hard to predetermine. We decided, therefore, that it would be better to operate on a straight statement which showed the charges as they were incurred rather than on a deferred basis, knowing that by so charging these expenses, certain months would operate at a loss and that this was a perfectly normal position in the business.

CHAIRMAN GILLESPIE: The discussion has been spirited this afternoon. Unfortunately there is no more time.

The meeting is now adjourned.

. . . The meeting adjourned at five o'clock . . .

DEPRECIATION

CHAIRMAN: JOHN H. DEVITT

Assistant Auditor, Hammermill Paper Co.,
Erie, Pa.

CHAIRMAN DEVITT: Fellow members and guests of the National Association of Cost Accountants, it is with considerable fear and trepidation that I convene this meeting. The assumption that the highly contentious subject of depreciation could be covered in the available time this afternoon obviously lies in the realm of wishful thinking. Therefore, the outline which has been distributed merely makes an attempt to prescribe the boundary lines of certain areas which we hope to discuss, and we recognize that the subject cannot be covered in its entirety. Representative members of the Association have co-operated in advancing suggestions as to the areas to be covered. The suggestions favored by a majority of this group are contained in the outline which has been distributed.

This meeting has several objectives. Chief among these is the desire to draw upon the accumulated experience of this group and

to exchange ideas, so as to permit an enlargement of viewpoint and the examination of practices, and also to appraise the accomplishment which has thus far been made with regard to depreciation.

We are going to try to make it possible for every man here to leave this meeting with at least one idea immediately or potentially applicable to his own business, with the hope that it may permit at least some partial compensation for his time and expense in attending this cost conference.

We hope to stimulate some original thinking on a subject which offers opportunities for additional contributions to our accounting philosophy, and an application of that philosophy to our everyday problems.

It is clear, then, that the method of conducting this meeting should be directed toward a maximum of discussion. Permit me to emphasize this point: This is your meeting. By your participation, you can create a contribution to this meeting and to our Association. On the other hand, your lack of participation may help to create a wasted afternoon.

I am not going to take any time to point out the importance of the subject. You are all familiar with that. The fact that it is included in your Conference this year is adequate testimony of the fact. So I am going to skip most of the introduction and background picture, and merely say that there is now universal agreement that the phenomenon of depreciation must be recognized in some appropriate manner. Costs of plant assets which have a limited useful life must have our consideration if production costs are to be accurately calculated, determination of income established on a sound basis, and the integrity of investment maintained.

There is no necessity for commenting in detail on the tremendous influence exerted by the income tax regulations. There are undoubtedly the need and opportunity for marked improvement with respect to precise methods of handling depreciation allowances, and we have an opportunity this afternoon to explore and perhaps cultivate this rather fertile field.

You will note from the outline that the tax aspects of depreciation are intended to be covered as a separate classification, rather than to have the tax implications imbedded in each point discussed at the time the point is raised. This procedure was adopted because it was felt that the coverage of the subject could be better handled if the discus-

sion of the cost accounting and financial aspects of depreciation was kept separate from the tax angles. It may later be proved that this approach is faulty, but the consensus of the group which I mentioned a moment ago indicated that this was the better method to be followed. We know that there is ample opportunity for confusion and controversy without going out of our way to invite it.

Just a word before we begin the discussion. I merely propose to introduce the areas to be covered and then retire; it is then every man for himself. I do not intend to have the Chair answer questions. They must be answered from the floor. I reserve the right to end discussion at any point and introduce new subject matter; that is to say, if I can do that and get away with it. I have in mind what usually happens to people who try to stop arguments. Seriously, however, I am sure you recognize that if the discussion at any point is aborted it is done only to assure additional coverage, and I apologize in advance.

When the opportunity presents itself, we shall try to obtain a vote from this group as to the preference of theories or of procedures. It is recognized that such a vote does not commit this group or the Association, but it does present an opportunity to get at least a recording of our deliberations.

It may be helpful to provide a basis for our thinking on depreciation by attempting to define it. I am not going to spend much time on it, but merely to arrive at a common viewpoint. One definition, according to widely accepted usage, is: Depreciation represents the decline in value of fixed, tangible assets, particularly buildings and equipment.

Another definition is: The loss of useful value due to use, wear, exhaustion, and normal effect of time and exposure to the elements.

Mr. Himmelblau, of our Program Committee, refers to it in one of his papers as: "The process of spreading the value of fixed assets over the accounting period comprising the service life."

There are three definitions. To some extent they overlap, and I would like to know at this moment if the definitions thus far stated are acceptable. Are there any other definitions? I don't want to get too technical. We are not delving into terminology, but merely wish to make sure there is no other point of view that should be adopted or expressed at this moment that defines depreciation.

The meeting is now open for discussion.

OBSOLESCENCE AS A PART OF DEPRECIATION

CHARLES W. TUCKER (*Controller, H. P. Hood & Sons, Inc., Boston, Mass.*) : I wondered, when you were defining the term, if you intentionally omitted the word "obsolescence."

CHAIRMAN DEVITT: Yes, I did. Mr. Tucker picked this up. Is there anyone who wants to speak on the point of obsolescence? Do we admit that obsolescence is a part of depreciation?

L. DUDLEY STAFFORD (*District Manager, The American Appraisal Co., Detroit, Mich.*) : There are two types of obsolescence: one which is the result of the normal progress in the art and development of the design of plant facilities which occurs in a gradual manner; the second, the type of obsolescence which results from a change in product, in market, or in methods of manufacturing which may occur over a reasonably short period of time.

My idea with respect to depreciation is that it should include what might be termed ordinary or gradual obsolescence, for the purpose of this discussion this afternoon. Any obsolescence resulting from causes that may be unforeseen represent problems that have to be taken care of at the time they become definitely known, but the gradual type of obsolescence should form a part of depreciation along with wear and tear, and I think Professor Himmelblau's definition of loss of useful value is sufficient to cover the purpose of the discussion this afternoon.

CHAIRMAN DEVITT: Mr. Stafford raised the point that a definition should include obsolescence. Is there anybody who disagrees? Apparently not. We all agree on definition.

Then there are the causes of depreciation to be considered. The phrase "ordinary wear and tear" is the bed-rock factor on which accountants base most of their accounting theory for depreciation, notwithstanding the wide variations of accountants, managers, engineers, and so on, in terminology.

I am asking you now, at this moment, to think of this very practically. We are not going to get involved in a highly academic or theoretical discussion of depreciation factors. We want to outline the causes of depreciation which later, as we go into the discussion, we hope to be able to evaluate in a depreciation rate. There are

numerous items: exhaustion, limited possibility of use, which is a functional item, wear and tear, normal obsolescence, and so on. We all recognize the items. Now, let's get into the possibility, gentlemen, of being able to measure and evaluate these causes in a depreciation rate.

Before we proceed, is there anyone here who believes we can introduce into a depreciation rate—practically, mind you—other factors besides wear and tear and normal obsolescence?

THE VINSON ACT AND DEPRECIATION

LEONARD W. STIEGEL (*Auditor, Deere & Co., Moline, Ill.*): I don't know whether this is the proper place to ask this question, but I am interested in learning if depreciation would have a more important aspect in your costs if you had a Vinson Act contract, as we discussed yesterday afternoon? We are talking now of what should be included in the depreciation rate. Would there be a difference in your depreciation rate if you had a Vinson Act contract? I am trying to link this up with what we heard yesterday.

CHAIRMAN DEVITT: You are introducing a special factor which has now become a part of our thinking in connection with war orders. Is that correct?

MR. STIEGEL: That is it.

CHAIRMAN DEVITT: All right. I believe that is a proper question at this time. You believe that we should include in the depreciation rate a consideration of that point?

MR. STIEGEL: Depreciation becomes more important as a cost item under a Vinson Act contract.

CHAIRMAN DEVITT: I agree with you on that.

MR. STIEGEL: This is true because of the fact that you pay back to the government any excess profit that is subject to tax. If you get depreciation costs too low, and you pay the profit back, you are out on your investment at a subsequent date. If you get it too high it may be questioned and disallowed in part. I don't know enough about the whole subject to know whether it is possible to change a depreciation rate for a Vinson Act contract.

CHAIRMAN DEVITT: Is there anybody in the audience who would like to inform the gentleman on that point?

JOSEPH P. HEALEY (*Assistant Secretary, Curtiss-Wright Corp., Buffalo, N. Y.*): In that connection, T. D. 4422 established the rate for depreciation. The same depreciation methods used for income tax purposes are used for Vinson Act reports.

CHAIRMAN DEVITT: Does that answer your question, sir?

MR. STIEGEL: It answers my question, but I doubt whether I would want to use the same depreciation rate for a Vinson Act contract as I do for normal business.

MR. STAFFORD: I raised the same point in Mr. Russell's meeting yesterday morning, and likewise yesterday afternoon in the discussion concerning the Vinson Act and the Walsh-Healey Bill. Neither of them is specific as to the treatment of depreciation. There is a division of thought, if you please, as to whether depreciation shall be computed in accordance with that shown upon the income tax return, or on a basis used for normal cost accounting which often differs from the depreciation shown upon the income tax return. We might even go further and compute depreciation upon a reproduction cost basis. But the Acts, themselves, do not specify what shall be the correct basis, and this still remains a matter of controversy, and perhaps a matter of adjustment with the War Department in the final settlement of their contracts. I don't think this meeting can furnish a definite, specific answer.

CHAIRMAN DEVITT: Mr. Stafford is entirely correct on that point. I told you in the introduction that I would like to exclude the tax problem until later in the discussion. If possible, in our discussion from now on, let's talk about the cost accounting and the financial aspects of accounting, and let the tax implications rest until later.

MR. HEALEY: We have been audited, and the same people who conduct Vinson Act audits handle income tax returns. The source of their information is your general books of account, not any hypothetical record you may wish to make up.

The matter of accelerated depreciation, due to two or more shifts, is another problem which is probably going to come up very soon.

HERBERT F. TAGGART (*Professor of Accounting, University of Michigan, Ann Arbor, Mich.*): I happen to have a copy of T. D. 2906 in my hand, and the last sentence under the general subject of fixed charges and obsolescence reads as follows: "In making allowances for depreciation, consideration shall be given to the number and length of shifts." I don't know whether that is significant or not, but it sounds as though it might be.

CHAIRMAN DEVITT: That is significant, but no one yet has defined what that consideration will be. We have included obsolescence, we have included wear and tear, and now other items have been introduced which should be included in the meaning of depreciation.

As to the validity of these items and the possibility of measuring and evaluating them for purposes of establishing rates, I would like to suggest, first, that we hear from someone who is in a position to be a little more specific about the term of normal obsolescence, and the possibility of adding that, in some sort of way, into a depreciation rate. It is perfectly all right to talk about it and say it should be included. How are we going to include it? What are we going to use as a base? What does it amount to?

DEFINITION OF DEPRECIATION TO INCLUDE "NORMAL OBsolescence"

MR. TUCKER: It seems to me that it would be very helpful if someone would explain why that term "normal" was introduced. Would Mr. Stafford, or yourself, kindly elaborate on what you mean in this particular instance by the term "normal?"

CHAIRMAN DEVITT: That is a good question. Who will speak on that point?

PHILIP K. SEIDMAN (*Manager, Memphis Office, Seidman & Seidman, Memphis, Tenn.*): It might be helpful in this discussion if we adopted this viewpoint of "normal." At the time the depreciation rate is set, it is also anticipated that the equipment might become obsolete within a definite period. The rate so fixed on the factor of depreciation and loss of value is the normal rate. During this fixed period, however, something else might come along to completely revolutionize the industry and the machine, making the present equipment

uneconomical. Thus an added factor of obsolescence is introduced which cuts off the machine life immediately rather than permit it to run another few years at the anticipated normal rate fixed for depreciation and obsolescence.

CHAIRMAN DeVITT: I think that is a decided contribution, Mr. Seidman. Does anybody else have any amplification of that statement? Does anyone disagree with it?

HOWARD A. GIDDINGS (*Staff, Leach, Rindfleisch & Scott, Richmond, Va.*): I suggest as a brief term to harmonize with what Mr. Seidman has said, that the basis for computing depreciation be "cost spread over estimated useful life." That is my understanding, and it is a basis which would include these various points that have been brought out.

CHAIRMAN DeVITT: You would bring normal obsolescence within that orbit?

MR. GIDDINGS: I would.

CHAIRMAN DeVITT: Is there agreement on that point?

MR. TUCKER: Mr. Chairman, I don't see that the word "normal" accomplishes anything in particular. It seems to me that we can define quite adequately the basis for computing depreciation, as follows: "an estimate of the useful life, which takes into consideration probable wear and tear and obsolescence."

MR. STAFFORD: Mr. Chairman, in my previous remarks I don't believe I used the term "normal obsolescence." I used the term "ordinary obsolescence," which distinguishes it in a rather important way from extraordinary obsolescence. We cannot include obsolescence, as such, in our depreciation rate because of the two separate and distinct types of obsolescence with which we have to deal.

We have a gradual obsolescence that occurs slowly from year to year. We have a sudden, unexpected type of obsolescence that may occur overnight. One we can measure based upon our experiences of the past. The other we cannot measure, and we must recognize it only when we know definitely that it has occurred.

I think the distinction that I made between the two types of obsolescence conforms very closely to the distinction made by the Treasury Department in their consideration of obsolescence. One is a gradual type, representing perhaps the slow improvements that are made from year to year upon a given machine. No one improvement would render that machine obsolete over one year's time, but the accumulation of those improvements over a period of seven, eight or ten years may make that machine become totally obsolete, and it may be replaced by one of an entirely different type.

With that distinction, I still believe the definition of depreciation as expressed by Professor Himmelblau is the correct one, i.e., "loss in useful value."

WYMAN P. FISKE (Professor of Accounting, Massachusetts Institute of Technology, Boston, Mass.): There is a fundamental difference in the approach to physical depreciation and obsolescence. Within reasonable limits the engineers can estimate physical life. Were this the only problem, depreciation accounting would resolve itself into a proration which would be strictly analogous to material accounting. It is a use problem. Obsolescence, on the other hand, is a risk problem which covers a wide range from that which is statistically predictable on an actuarial or insurance basis to that which is for a particular business unit a purely random and unpredictable phenomenon. There is no possible accounting solution to the latter type which can be met, if at all, only by financial methods.

From this it follows that our accounting approach to obsolescence, either through inclusion of an obsolescence element in the depreciation rate or through a special obsolescence rate, must be by an insurance type of reserve. When obsolescence strikes, the accumulation for any particular plant item is certain to be insufficient. Protection is possible only because of the presence of many items which live beyond their average expectancy and so build up a reserve to be applied to the early deaths (retirements).

This is all of significance in our device of accounting methods. Specific reserves against individual items of plant fail to meet the problem of obsolescence because the device does not, without some special provision, permit the apparent excess accumulation for some items which is necessary to meet the losses incurred on others. Group reserves are a better protection, for a charge can be continued as long as any item remains in use and the accumulated reserve can be shifted

to the items which are retired. Unit reserves have the attraction of great refinement but lack a sound basis. (It should be noted that even though group reserves are used, they may be accumulated through unit rates, as is fire insurance.)

An interesting corollary of the inherent limitations of an accounting approach to obsolescence is the need for financial conservatism as a necessary supplement where accounting fails.

HOW ARE DEPRECIATION RATES SET?

CHAIRMAN DEVITT: I am sorry we are going to leave the question of obsolescence, as it is obvious that that item alone provides much opportunity for fruitful discussion. But time marches on! We will now go on to the methods used by various industries and individuals in setting depreciation rates. There are authorities we can consult. We have handbooks. We have the Internal Revenue bases prescribed and recommended. What procedures, other than those mentioned, are available and being used by anybody in this group to establish what appears to them to be a more equitable depreciation rate? Are there any independent research jobs being done in various industries? Are there statistical data being accumulated by any group that are not now available as part of the current literature on this subject?

Would anybody like to express an opinion on that point, or do we just throw up our hands and accept depreciation rates that we have seen printed somewhere?

How many in this group, in setting depreciation rates on new equipment coming into the plant, or on old equipment as far as that is concerned, go to the available literature as a guide in setting rates? May I have a show of hands on that, please? (Six.) How many do not? (About twenty.) That is very interesting. May I inquire of those whose hands were not raised, what procedure you use?

KERR M. CRESSLER (*General Auditor, Granite City Steel Co., Granite City, Ill.*): I believe the published rates, or the rates that are available, have to be viewed in the light of experience and, in addition to that, under the conditions under which the machinery is used.

For instance, I am connected with a steel company, and we have a great deal of underground piping that is in a center fill. Such piping will last a much shorter time than piping that is operated under

other conditions. Also, we have certain machines that are used where there are acid fumes present. In our case we have taken these factors into consideration in determining the life we apply, using as our starting points the rate made available by the Department of Internal Revenue.

CHAIRMAN DEVITT: You temper them with your own experience? Does that seem to be the feeling of this group? Apparently so. In other words, no one accepts any authority on depreciation rates other than their own experience. From the standpoint of uniform practice, we are apparently in a state of high confusion.

MR. STIEGEL: It seems to me that depreciation is moving out of the accounting field into the engineering field, in that any plant or industry purchasing equipment for the production of their product goes at it on an engineering basis. Each company has slight differences from even its closer competitors, because of the way each uses its equipment. Therefore, the basic machines assembled in a particular plant become an individual problem in that plant. Because of that type of engineering management, I believe depreciation is going to be more of an individual problem with each particular plant or industry. That is why I believe, as you say, that it is getting to be more of an experience matter, adjusting the general published rates, rather than using the rates as published.

INDIVIDUAL, GROUP AND COMPOSITE RATES

CHAIRMAN DEVITT: We have had an expression on that, and I don't think we want to take more time on it.

We have, as a basis of applying these rates, three definitely accepted methods: individual rate basis, composite rate basis, and the group basis. The advantages that are claimed for individual rates seem to rest primarily on the assumption that the smaller the unit used as a base the more practically possible it is to assign a rate which is equitable.

Going to the other extreme, the composite rates seem to achieve most of their acceptance from the fact that they are very simple and require no effort in handling detail, particularly as compared with the individual rate. In between those two extremes comes the group rate basis.

To expedite the meeting, I would like to have an expression from this group as to how many set up their depreciation schedules on an individual rate basis. May I have a show of hands, please? (Twelve.) How many on a composite rate basis? (Nine.) How many have them on a group basis? (Ten.)

Who would like to point out what they consider to be the primary advantage of the individual rate basis?

MR. CRESSLER: We formerly had our depreciation on a composite rate basis, divided into principal classes of assets. Due to financial problems, we put it on a unit basis following T. D. 4422, setting up the principal items that could be readily identified by assigning an expected life to them. Certain other assets were combined under broad groups, such as manufacturing piping and electrical power lines, and other items that were general throughout the plant but not readily identified when set up into those respective groups. Aside from the tax angle, setting them up in this way enabled us to secure a more accurate allocation of our depreciation charges to our costs, and also facilitated the accounting for the dismantlement of certain items of property.

CHAIRMAN DEVITT: Thank you very much.

This question is directed to those of you who now have composite rates. Would you prefer to have your records and your method of allocating and determining depreciation set up on an individual or group basis, other than what you now have? May I have an answer to that question? Apparently, most of you are well satisfied with your present setup.

MR. TUCKER: May I suggest that the reluctance to answer this question may be due somewhat to a misunderstanding as to the distinction between the terms "group rates" and "composite rates"?

CHAIRMAN DEVITT: You may be entirely right. I promised that the Chair would not attempt to answer questions. Would someone in the audience like to briefly outline the difference between group and composite rates?

MR. STAFFORD: I will try to answer that question. In my judgment, a unit rate should be applied to a reasonably large individual

unit of property. I would suggest that it would be applied to an individual building, to an individual machine unit, such as a paper machine, a printing press, a lathe, a milling machine, or other comparable units, where the remaining expectancy of life might be determined with respect to that unit with reasonable accuracy.

The group rate depreciation might be applied, as Mr. Cressler pointed out, to those groups of property that are important as a part of plant assets that are made up of a large number of small items, such as piping, wiring, factory furniture; it might even include office furniture where the items are \$5, \$10, \$15, \$25 and \$50 in amount.

The unit rates would be on items from \$500, \$600, \$700, and upward, in amount, but the division between the unit rate classification of property and the group rate classification of property would have to be determined with respect to each individual industry.

CHAIRMAN DEVITT: Would you do that on the basis of valuation only, or would you do it by classes of equipment?

MR. STAFFORD: I would do it by classes of equipment, not with respect to valuation only.

MR. TUCKER: I should greatly appreciate it if Mr. Stafford would explain the term "composite rate" as distinguished from "group rate."

MR. STAFFORD: The composite rate, within my understanding and application of the principle, is a rate applied to a group of mixed assets having variable lives. It might be applied to an entire account known as a plant account, which may include buildings, machinery, office furniture, automobiles, and everything else. I have seen many instances of such grouping of plant accounts.

A group rate would be a rate applied to a group of assets having like characteristics and like remaining expectancy of life, or total expectancy of life, as the case may be.

CHAIRMAN DEVITT: You would undoubtedly include in your definition of a composite rate, the philosophy that a composite rate rather implies that the plant functions as an entity. Is that correct?

MR. STAFFORD: That is correct.

CLARENCE CROCHERON (*Contract Manager, The American Appraisal Co., New York, N. Y.*): The composite rate presupposes long-lived and short-lived assets and applies to the whole property.

MR. CRESSLER: Instead of taking the plant as a whole, we had it broken into railroad siding, building structure, machine appurtenances, minor equipment, and administrative equipment. Each one of those groups had a composite rate.

As has been pointed out, the life of the individual items in the group played no particular part. It was an average life given to the group as a whole, and a rate was applied on the basis of this average.

In our experience, when we endeavored to take an item out of a composite rate group, we found that it was never fully depreciated because, as new items were added, we automatically extended the average life of the group. Therefore, we never had a fully depreciated asset in our account.

CHAIRMAN DEVITT: In the opinion of this group, is there a swing toward individual and group rates rather than composite rates? May I see the hands of those who believe that to be true? We record that as a very strong affirmative.

There is usually some controversy among accountants as to what constitutes the dividing line between repairs, replacements and new additions to the property accounts. I would like to ask what the common procedure is with respect to the treatment of these items. I appreciate that this question must be related to the type of depreciation base which one may have in their company. Does the value determine the treatment? For example, does everything under \$100 automatically go into repairs, replacements or expense, and anything over \$100 automatically become capitalized? What are the opinions as to the better procedure?

CAPITAL AND REVENUE EXPENDITURES

MR. CRESSLER: In our company we have machines that vary from a small cost to quite a heavy investment. Invariably, on expenditures that are of a minor nature, \$100 in most cases, or less, and in some instances a larger amount, we charge the cost to maintenance, unless there is a decided advantage added to the existing equipment from an operating standpoint, either in more efficient control, increased capac-

ity, or something of that nature. But in practically every case we view and weight the individual item, and determine which it is. When there is any question we write it off as repair and maintenance, rather than merely increase our investment in the existing assets.

CHAIRMAN DEVITT: Do I understand you to say you capitalize operating betterment?

MR. CRESSLER: Yes if we add improved control to a machine, something that will increase the value of that machine.

CHAIRMAN DEVITT: Physically, or from an operating standpoint?

MR. CRESSLER: Physically. The operation is incidental.

THOMAS M. DICKERSON (*Head, Accounting Department, Cleveland College, Western Reserve University, Cleveland, Ohio*): It seems to me that if an expenditure relative to a capital asset adds something to the original form of the asset, such as a dump attachment for a big truck, it should be capitalized and depreciated over the remaining life of the larger asset to which it is added.

If the expenditure adds nothing new to the original asset but extends the years of usefulness of the asset, it should be deducted from the reserve for depreciation, and perhaps also the depreciation rate should be adjusted over the remaining life of the asset.

If the expenditure is made merely to maintain the original asset in usable condition, such as the ordinary replacement of worn parts, and does not add anything new to it or materially prolong its life, the expenditure should be charged to expenses.

It must be admitted that these are general principles and there may be many borderline cases in which it is difficult to determine the proper treatment. In some cases the total expenditure may have to be allocated in accordance with one or more of these principles.

DAVID HIMMELBLAU (*Head, Accounting Department, Northwestern University, Chicago, Ill.*): May I ask if today it is the policy to capitalize items which add nothing from an operative standpoint, but which do represent additional dollars expended? Is that a general practice?

CHAIRMAN DEVITT: May I ask the group to record themselves on that point of view en masse? Apparently, about 50 per cent follow that practice.

PROFESSOR HIMMELBLAU: Referring to the statement made a moment ago, that the company will capitalize an expenditure which does not add to operating efficiency, assume it has spent more money, and it has nothing to show but better efficiency. In such case is the tendency to capitalize such items or to charge them to expense, so that they don't get into the capital account, whether the item is less than \$100 or more than \$100?

CHAIRMAN DEVITT: Does anybody want to answer that question from his own experience?

MR. CROCHERON: My experience would indicate that it is not possible to definitely predetermine whether or not an expenditure will result in greater operating plant efficiency. Furthermore, unless the accountant is intimately acquainted with plant operation or is furnished with an adequate explanation of the work to be performed, he is at a considerable disadvantage in his attempt to decide whether a particular expenditure should be capitalized, charged to the depreciation reserve or charged directly to operating expense. For this reason, I recommend the preparation of a manual of plant accounting procedure to guide the accountant in the routine handling of capital, maintenance and expense charges.

Many concerns with whom I have had contact, capitalize only expenditures in excess of \$100, or some other fixed amount. Such procedure is arbitrary and can only produce an erroneous result.

Where a manual of plant accounting procedure is in use, it should provide rules governing the accounting treatment to be accorded routine and special cases. Generally speaking, the cost of a new plant item or the replacement of an old one should be capitalized; an expenditure which will result in extending the life of an existing item should be capitalized or charged to the reserve; and other expenditures, which do not add to the value of the plant or extend its life, should be expensed. One method of testing whether a maintenance expenditure should be capitalized or expensed is to relate the maintenance cost to the investment in the item upon which the expenditure has been made. For instance, suppose \$80 was spent on a \$200 plant

item; this 40 per cent expenditure would seem to indicate a thorough overhauling which would extend the life of the item and, therefore, constitutes a capital charge. On the other hand, suppose \$1,000 was spent on a \$25,000 plant item; this 4 per cent expenditure would seem to indicate an ordinary repair which would not extend the normal life of the plant item, and therefore the expenditure is a proper charge to operating expense.

A plant account should reflect the property it purports to represent and unless these daily expenditures are accorded proper accounting treatment, the picture reflected on the books will become very much distorted.

GLENN A. BURSELL (*Principal Cost Clerk, City Comptroller's Office, Minneapolis, Minn.*): We have about 800 pieces of equipment, both transportation and stationary, and in our case we capitalize all betterments where they are entirely new on the equipment.

CHARGING DEPRECIATION RESERVE FOR IMPROVEMENTS

ALFRED G. BLOCK (*Secretary and Treasurer, Barnes Drill Co., Rockford, Ill.*): I would like to ask for an opinion on capitalizing an improvement versus charging it to the reserve account.

CHAIRMAN DEVITT: That is a very good question. Would someone like to speak on that point? May I see the hands of those who charge the reserve? Apparently, none!

Then we will have to put it in the form of an academic answer, I am afraid. Would somebody like to make an academic answer to the question?

PROFESSOR HIMMELBLAU: I think that is related to my question. In other words, the so-called improvements and betterments seem to pile up at a very rapid rate these days, but when you look at them five or ten years afterwards you can't find anything to show for the expenditures. That is why I raised the question of whether or not there is a tendency to charge them to expense as you go along, even though they are, in a sense, betterments or improvements, on the ground that actually you don't have anything five years from now and you do it all over. The major unit has no longer life. You simply improve and improve. At the end of five years you have nothing

to show for it, except that you see an old asset needing some improvement.

CHAIRMAN DeVITT: I am not entirely sure that that is pertinent to the question the gentleman propounded.

MR. BLOCK: My question was on the handling of the charge after you decide that it is an improvement. I think that is separate and distinct from a repair or a maintenance charge.

CHAIRMAN DeVITT: Please, don't let me hear anyone bring up the subject of taxes on this, now.

HARRIS SAUNDERS (*Vice President and Manager, Dixie Drive-It-Yourself System, Birmingham, Ala.*): The Interstate Commerce Commission, in regulating trucks on cross-country hauls, prescribed accounting methods and, as I understand it, they state that the cost of any change in a truck that adds to its capacity (for instance, that raises it from a two-ton truck to a four-ton truck) should be charged to the capital account; not to the reserve, but to the capital account. Anything that improves efficiency, the complete overhauling of the motor, for instance, would still be charged to maintenance expense.

MR. STIEGEL: I might point out that this question of depreciation must at times be subjected to management policy. I can see that where companies enjoy a rather large margin of profit, the management policy could be to charge as much as possible to expense, to be conservative. Also, because they do enjoy a good margin of profit, they can buy a new machine at an earlier age of obsolescence than somebody who doesn't enjoy that margin of profit.

Then, too, I think during a poor year of business when you are operating near the line or a little in the red, you may want to pull the company through with a pretty good showing, and I think management in that case would want to see how much it could squeeze into the capital account, thinking that at a later date it could make up for the fact that it would want to show an increased income.

My point is that depreciation is subject to management policy which may differ as to the margin of profit or the type of industry, and whether the company is having a good year or a bad year.

CHAIRMAN DEVITT: What you are saying, in effect, is that depreciation is largely, in some cases, a matter of manipulation?

MR. STIEGEL: In a sense, yes, if you can comply with the tax laws.

CHAIRMAN DEVITT: We can throw overboard our theories as to the proper method of accounting for depreciation through exposure of the problem to management.

MR. STIEGEL: Not necessarily so. The management is still the boss. The accountant works for the management. Sometimes the average accountant, where he sees there is a margin, can satisfy the boss, and still have the procedure accepted.

CHAIRMAN DEVITT: You mean there is some regimentation?

MR. STIEGEL: I wouldn't say so. I think company policy determines some of your depreciation methods.

CHAIRMAN DEVITT: I agree with you 100 per cent that company policy determines the treatment to a large extent, but as accountants do we agree that it should?

MR. STIEGEL: Not necessarily so.

CHAIRMAN DEVITT: May I have an expression on it? Does the management interfere at times, in the experience of most of this group, in what you consider to be the best thing to do? Your bosses are not here. This is not a recorded vote. It is practically unanimous.

GEORGE B. FUNK (*Manager, Mississippi Valley Appraisal Co., St. Louis, Mo.*): I would like to add a word concerning the capitalization of expenditures for additions.

Whether to begin capitalizing costs of additions when such costs amount to \$5 or \$100 would depend upon the amount of detailed control and record wanted on minor items as well as the number of items added at one time and the frequency of additions, and also the general character of all of the fixed assets.

The accounting for expenditures for major additions is much more

important, as most major additions involve incidental expense such as temporary construction, wrecking, and subsequent restoration of the disturbed property. These expenditures, I find, are often entirely capitalized. I believe that only the increase in value of the addition to the plant should be capitalized. This amount can usually be determined by analyzing all expenditures incidental to the addition and capitalizing that part of the expenditure which would have been sustained had the item or addition in question been installed or erected in its most economical order or sequence of construction as a part of the *whole plant*. The analysis would of necessity be made in the light of an inspection of the physical additions which represent actual increments to the plant value. The difference in value of the property or unit, before and after the addition, may also serve as a basis to determine the portion which should be capitalized. Only in rare exceptions would the increase in value exceed the total expenditure, and so I do not believe we should concern ourselves about that condition.

THE ACCOUNTANT'S RESPONSIBILITY FOR DEPRECIATION RATES

CHAIRMAN DEVITT: I am terribly sorry, but we will have to move on to other parts of the outline, recognizing that we have passed over some points. Here is the next point: What is the accountant's responsibility with respect to these points we have just discussed?

Is the accountant primarily responsible, or should he be primarily responsible, for the determination of proper depreciation rates?

Should he have the assistance of the engineering department? If he doesn't have it, should he insist that he gets it?

Is it a management responsibility to assign rates? Is it the accountant's job to bring it up to the management and insist on an expression of management policy as to rates?

In case of the lack of any or all of these things in a particular industry or business, must the accountant take the situation into his own hands and assume that responsibility?

Those are very interesting questions. I don't want to spend too much time on them, but I believe they are important.

JERALD S. HANKS (*Partner, Harry Margolis & Co., Bethlehem, Pa.*): To what extent are you gentlemen given a free hand in establishing the depreciation rates; in other words, does management more or less leave it up to the accountant to establish the rate?

CHAIRMAN DEVITT: That is a very good question. May I have an expression on that? How many people in this room are permitted to establish depreciation rates? (Nine.) How many are not? (About twelve.)

JAMES K. FLINT (*Cost Accountant, Flint-Eaton & Company, Decatur, Ill.*) : I would like to ask who does establish the rates?

CHAIRMAN DEVITT: Thank you. We were coming to that. On the part of those people who did not raise their hands on either point or answered in the negative, who establishes them?

MR. BLOCK: I think the accountant who would attempt to establish the estimated useful life without consulting an engineer or his production department would be very unwise. I believe he should do it with the help of the engineering department or the production department.

CHAIRMAN DEVITT: Who should accept the final responsibility, the engineer or the accountant?

MR. BLOCK: I would say the accountant.

MR. FLINT: I think it is the accountant's responsibility to get the rates established. He should consult his engineers and department heads and get their suggestions, and then he should go out to the management and say, after consulting with the department heads and engineers, "This is my idea as to what these rates should be." I think it is his responsibility to get figures and present them to the management, but I don't think he should be asked to be responsible for setting the rates without management's approval.

MR. STIEGEL: When we review this problem as to organization setup, I think the responsibility for establishing a depreciation rate lies first with the controller. It is his responsibility or function in the organization. I believe a controller would not want to pass on the rate until he had consulted the engineer, if it were a rather large problem having to do with whole departments or a larger investment. If it were an ordinary investment, previous experience could be the determining factor in establishing it.

CHAIRMAN DeVITT: Suppose we reduce it to the problem of the smaller company, or perhaps those companies that do not have the same high regard for depreciation as the accountant.

MR. STIEGEL: It is in the small company that doesn't have a controller that your problem arises. Someone has to act as controller. It might be the general manager, and in some places it might be the superintendent.

CHAIRMAN DeVITT: Is it really the accountant's responsibility in the final analysis?

MR. STIEGEL: I think a good accountant who wants to establish his depreciation rate will recognize his limitations. It is rather doubtful, in my opinion, that the average accountant can establish a depreciation rate for a company without some knowledge of engineering, and particularly income tax regulations.

MR. TUCKER: Mr. Chairman, in my opinion, the establishment of depreciation rates resolves itself pretty much into a matter of management responsibility in the field of company policy. When I say that, I appreciate only too well that one of the primary responsibilities of the accountant is to make his contribution to the establishment of company policies, but I feel, as I said before, that the actual final responsibility for the establishment of the rates, after the accountant has brought to bear all his persuasiveness and salesmanship, if you please, rests with management.

CHAIRMAN DeVITT: How many agree with that in theory?
(About twenty.)

MR. STIEGEL: Who is the management?

MR. TUCKER: The board of directors, board of executives, or the general manager, depending upon circumstances.

USE OF APPRAISAL COMPANIES

PAUL N. KNAUFF (*Assistant Auditor, The Ohio Leather Co., Girard, Ohio*): I would like to ask how many here place this ques-

tion of depreciation, plant valuation, and so on, in the hands of an appraisal company.

CHAIRMAN DeVITT: The gentleman asks how many of this group place the responsibility upon an appraisal company. May I have a show of hands?—None!

MR. TUCKER: I would like to ask if Mr. Knauff and the Chairman would accept substitution of the word "counsel" for the word "responsibility." It doesn't seem to me that management can properly delegate to outsiders responsibility on such matters of company policy for which management alone is responsible. Probably you had in mind how many managements consult with appraisal companies in order to get the best kind of advice, the best information available.

MR. KNAUFF: That, in a way, is what I meant. I was interested also in knowing how many companies maintain close contact with those appraisal concerns to keep the matter of depreciation, plant evaluation, and so on, in definite control; that is, relying upon the appraisal company authority in the final analysis?

CHAIRMAN DeVITT: Without engaging too much time on the question, I think the implication is clear. How many do that? (Five.) Decidedly in the minority.

Straight-Line Versus Production Basis

CHAIRMAN DeVITT: We are going to skip in the outline to: "Methods of apportionment and allocation of depreciation costs, with particular attention to straight-line basis of depreciating fixed assets versus production activity or other bases."

For a considerable number of years the straight-line basis has been widely accepted by most accountants. There have been for quite some period of time a few voices raised to declare that depreciation is not a factor of time, but is more a factor of productive effort. We would like a discussion this afternoon on that particular point. In other words, besides apportioning depreciation on the basis of time (the straight-line method), there are other methods available, either units of production, hours of operation, or possibly some other modifications or combinations of those two basic methods.

Because we are all familiar with the straight-line basis and those of us who use it are thoroughly acquainted with its restrictions and with its advantages, I would like to have somebody here who is now using an activity adjustment basis to outline what he believes to be the advantages of such a method.

MR. CRESSLER: Until two years ago, we used the straight-line method. At that time we went on a production basis. A survey of our capacities was made, and from that we determined a normal basis. Because some of our departments operate at different rates of production than others, the periodic depreciation was determined on the basis of T. D. 4422.

CHAIRMAN DeVITT: Out of the background of the experience you now have, can you tell us what has resulted from the change?

MR. CRESSLER: The result has been that when our production has dropped, our depreciation has declined, and when production has been accelerated, our depreciation has increased in proportion to the use of our facilities. We now operate twenty-four hours a day, three shifts, practically six days a week, and our results are quite satisfactory.

CHAIRMAN DeVITT: You are thoroughly sold on the idea?

MR. CRESSLER: We are.

CHAIRMAN DeVITT: Is there anyone in the room who challenges the method from the standpoint of protecting the integrity of the investment?

MR. SEIDMAN: I would like to find out what would happen in his company if, for some reason or other, the plant was shut down completely for a year. Would there be a depreciation charge?

MR. CRESSLER: The depreciation would go on at one-half our normal rate, if that is our bottom. If any one department fails to operate on that basis, the depreciation is taken up to that point to cover wear and tear and obsolescence. In other words, we have established a bottom.

CHAIRMAN DEVITT: You establish a minimum basis?

MR. CRESSLER: Yes. In other words, our acceleration occurs beyond that point, but in all cases we will never go below the minimum.

CHAIRMAN DEVITT: Obviously, that method of allocating depreciation costs makes the work of the cost accountant a bit easier.

Is there any public accountant in the room who challenges Mr. Cressler's statement from the balance sheet standpoint? As public accountants, do you agree with that procedure? Is it a fair expression of the value of the company at a certain time, assuming the condition to operate as just outlined?

MR. GIDDINGS: I do, from a balance sheet standpoint. From an operating point of view, I think the procedure as outlined is a splendid method in certain lines of industry, but not suitable for all lines of industry. I think the protection of having a minimum for a certain percentage is what saves the whole thing. Without that minimum, I don't think you could operate at all. From a balance sheet standpoint, it does seem to have some drawbacks, because time goes on and depreciation is affected somewhat by the passage of time, as well as by visible deterioration. Therefore, I think if protracted lengths of time occur when there is no production, it is necessary to take that into consideration on the balance sheet.

MR. CRESSLER: Supplementing what I just said, we review periodically our rates, our production capacity, and the rate at which our property is being depreciated.

MR. STAFFORD: May I make one addition, briefly?

I referred in my earlier remarks to depreciation being made up of wear and tear as one factor, and ordinary obsolescence as another factor. I think the point Mr. Cressler has in mind is this: In accelerating your rate of depreciation, you are accelerating that part of your rate that represents wear and tear, and that part of your rate that represents ordinary obsolescence goes on whether your plant operates or not.

MR. BLOCK: Would it be a fair question—if not, you can rule it out—to ask Mr. Cressler how the Revenue Department views that procedure? Is it acceptable to the Department?

MR. CRESSLER: The first year we used it, the Revenue Department accepted it on our returns.

CHAIRMAN DEVITT: That has been the experience of other companies which have been using that type of activity adjustment.

How many here favor the activity adjustment basis as opposed to straight-line? About 30 per cent. How many have the straight-line basis and would like to stick to it? Slightly in the majority.

DEPRECIATION ON IDLE AND EXCESS PLANT

CHAIRMAN DEVITT: We have another contentious question, the treatment of depreciation on idle plant and excess capacity. Should depreciation of this type be isolated? Is it a sales responsibility? A management responsibility? Is it a direct charge to the profit and loss account?

Would someone please discuss these points? In my attempt to hurry the meeting, perhaps I have asked too many questions at once. We will try again. How many believe that depreciation on idle plant should be isolated and charged directly to the profit and loss account? (About eight.) How many believe it should be done, but are not permitted to do it? (Two.)

Is it a management responsibility in the minds of most of this group here, or is it a sales responsibility? How many believe it is management's responsibility? Practically all. The managers are getting hell here this afternoon.

How many believe it should be brought to the sales department? (Two.)

MR. DICKERSON: It seems to me that depreciation on idle plant and excess capacity should be accounted for separately, and should not be charged to an operating cost, in order that the remaining costs may more accurately reflect the efficiency of operations without relation to the volume of production.

DEPRECIATION AS A FACTOR IN PRICING

CHAIRMAN DEVITT: Our next point is depreciation as a factor in pricing. Should profit areas take cognizance of excessive depreciation caused by various reasons including limited marketability of product,

and should charges to the product be burdened thereby, and the price increased? Is there anyone who believes that should be done?

THOMAS B. DUNN (*Auditor, Kansas City Structural Steel Co., Kansas City, Kan.*): Change the question a little bit. How many do consider depreciation as an item of cost?

CHAIRMAN DEVITT: How many consider depreciation as an item of cost? Practically unanimous.

In setting up cost as a basis for price, should certain profit risks be recognized? In other words, we know that there is a profit risk in the manufacture and merchandising of new products. From the depreciation angle, the new product may require a large investment. There may well be a sensational demand for those products within a period of one, two, three or possibly even more years, but beyond the initial period the salability of the product cannot be measured. In that case, should your computations on pricing include cognizance of that profit risk? Does anyone believe that should be done?

MR. STIEGEL: That relates to my question regarding the Vinson Act. If you buy equipment with a limited life during this flurry of defense preparation, which you depreciate in determining your profit and your costs, I think that equipment should be depreciated over that short period, because that is as long as you can see the demand.

CHAIRMAN DEVITT: Is that generally accepted by this group? The answer is yes.

We have one more question. There are tax accounting aspects imbedded in all of these questions that have been raised so far. I am not going to propound any of them. There must be questions in your minds.

MR. BLOCK: Certainly there is a tax question involved in Mr. Stiegel's suggestion, but I don't see how he can get away with it. I think we are all interested in that right now, and I would like to know if the use of the method of amortizing costs is possible.

MR. STIEGEL: I am just saying what I do. I don't know whether it will be accepted or not.

F. GERALD HAWTHORNE (*Assistant Controller, Weston Electrical Instrument Corp., Newark, N. J.*): Our company follows the procedure of depreciating tools on the basis of the sales life of the product for which the tools were designed. This is on the theory that the useful life of such tools is just as much contingent on the period during which the particular product is salable as it is on any other factor. We have some types of products which we must remodel every year, every two years, five years, etc., and it certainly would not be good economics to have residual capital asset values remaining in the accounts, representing investment in tools and equipment for which there was no further use. Aside from improvements from time to time, our regular and standard line of instruments have an indefinite sales life and tools to produce them are depreciated over a time cycle which experience has shown to be their useful productive life. By following these procedures we feel that we recover our cost of capital assets from the sale of the products which they were designed to produce.

CHAIRMAN DEVITT: And you put depreciation on this basis into your price?

MR. HAWTHORNE: Yes, the procedure which we follow provides for the inclusion of capital asset costs in fixing selling prices through the reflection of the proper provision for depreciation in overhead. We have followed this procedure of depreciating tools for several years and have submitted detailed schedules thereof with annual tax returns.

CHAIRMAN DEVITT: You have had no difficulty?

MR. HAWTHORNE: To date, our experience with the Bureau of Internal Revenue has been entirely satisfactory in that our deductions for depreciation have been allowed. We have found the Bureau very reasonable and it is my opinion that they will always co-operate with taxpayers in matters of depreciation policy if given the opportunity, and if they can be assured that the taxpayer is not trying to get away with something.

MR. CROCHERON: Section 23 of the Revenue Act provides that the undepreciated cost of existing assets may be recovered over their remaining useful life. There is no qualification on that in the Revenue Act.

AMORTIZATION OF COST OF SPECIAL FACILITIES

MR. HEALEY: Under present conditions, with the Allies furnishing funds with which to erect plant and equipment in this country for their needs, would the Department of Internal Revenue accept the useful life as being the period over which the facilities are used, or would you have to dismantle and destroy the equipment and plant after the completion of the contracts in order to bring the useful life to an end?

CHAIRMAN DEVITT: I would like to have an answer to that from the floor.

MR. HEALEY: The point I tried to make was this: Assuming the Allies furnished you with one million dollars with which to erect a plant, you turned out three years of production, and the plant is still standing at the end of that time. Would you destroy the plant in order to absorb the undepreciated cost, or could you call it obsolete, idle or excess facilities?

MR. CROCHERON: Naturally, I am not informed as to what will be done in the way of new tax legislation, but I do know that following the war of 1917-18, the taxpayer was afforded relief through the opportunity of claiming amortization on Class 1 and Class 2 facilities; this permitted the taxpayer full deduction for those facilities used solely for war work and an additional pro rata allowance for amortization of facilities used partially for war work and partially for ordinary manufacturing operations. It is of the utmost importance that any new tax bill should provide liberal amortization for facilities used exclusively on emergency U. S. Government contracts, either in the form of depreciation over the productive life of the facilities or as a special obsolescence claim, if the usefulness is suddenly terminated. Otherwise incentive to co-operate in a rearmament program will be stifled.

CHAIRMAN DEVITT: I understand that there is a squabble now brewing between the Army and Navy Departments and the Bureau of Internal Revenue on this very point, which has not yet been settled and at the moment there is no indication that it will be. There is some reason to believe that the Bureau of Internal Revenue is very much afraid a situation will ensue which might assume the proportions of the one which occurred in 1919 and subsequent years.

MR. STAFFORD: Mr. DeVitt, there is confusion of thought for the moment. Mr. Healey has referred to the practice that the Allies have indulged in, of advancing money to American manufacturers for the extension of plant facilities. The plan of amortization for the cost of war facilities, as outlined by Mr. Crocheron, was for facilities that were acquired at the instigation of the United States Government. I think Mr. Healey's question still remains unanswered, notwithstanding Mr. Crocheron's remarks.

CHAIRMAN DEVITT: It does remain unanswered and at this time unfortunately there does not appear to be any answer. All we have as a guide is past experience, which may indicate what might be done.

MR. DICKERSON: With relation to war contracts, it is undoubtedly true that the facilities of many plants will have to be expanded in order to provide the necessary production for national defense. Realizing, or at least expecting, that such excess capacity can be used only temporarily, most manufacturing companies will be reluctant to make such expansions unless the Federal government allows them to depreciate such wartime expansions over the expected period of defense production. If this is allowed, manufacturers will be able to charge the cost of the plant expansion against profits from government business, thereby reducing their taxes during this period of defense production.

PROFESSOR FISKE: It appears to me that no single approach to depreciation can meet all the problems in which depreciation is a factor. There is general agreement that for the financial accounts there is a need for the objectivity which only outlay costs can ordinarily provide; financial accounting needs have always and will continue to dominate our routine accounting records. Hence write-ups and write-downs are to be considered as at best undesirable in the accounting records and are to be avoided except under exceptional circumstances. This attitude should not, however, close our eyes to the importance of replacement costs in mergers, or in financial planning for actual replacement under a price level which is either considerably above or below that at which the assets were acquired. Similarly, the fact that a given outlay was made is little excuse for recognizing replacement costs in our estimating and pricing, and for the same reason that current material prices are used in pricing. It is an unattainable

accounting Utopia to expect that one type of analysis can ever be found which will meet the gamut of problems which an intelligent management will pose. We need flexibility in our thinking and approach.

TAX ANGLES

CHAIRMAN DEVITT: Time is not going to permit a well-rounded discussion on tax aspects of depreciation and obsolescence. However, we have time for an additional contribution on these points, and I am going to ask Mr. P. K. Seidman of Seidman & Seidman, Certified Public Accountants, Memphis, Tennessee, if he would care to expose his thoughts in regard to some of the tax implications.

MR. SEIDMAN: All theoretical discussions take on a color which present-day economics bring to it. Thus, it is found that probably the greatest present-day need in a discussion of depreciation is the factor of speeded obsolescence, as the result of rushing a defense program. Therefore, it may be well to consider the fact that insufficient recognition is paid to the obsolescence factor. The rules, as now applied by the Treasury Department, really make it necessary for an item to be obsolete, ignoring completely anticipated obsolescence. This approach completely overlooks the point that in a realistic sense we know that obsolescence in certain cases is definitely more formidable than depreciation. We need look no further than the airplane industry to prove our point and if further substantiation is necessary, let us throw in the air conditioning industry as well.

This problem can be approached with a degree of intelligence and its complications mastered, for it calls merely for a changed attitude on the part of the Department, and a restatement in the law of a positive recognition of undisputed obsolescence, bringing about a higher depreciation rate (combined with the factor of obsolescence) for the writing off of large fixed investments.

There is a current view which is recognized by many in the field, that depreciation on a time basis is an illogical approach. Cost accountants should find the sponsoring of depreciation, based on a production basis, a very fertile field for conviction. While there is, no doubt, some measure of depreciation, merely from the lapse of time, there is no exhaustion, wear and tear imbedded in the time element and yet only the latter factors actually warrant the deprecia-

tion deduction. I do not believe that much argument can be found with the theory that time depreciation has the effect of overstating profits in active, prosperous years and understating profits or increasing losses in inactive depreciation years.

Probably one of the most troublesome depreciation items which accountants and tax practitioners run into is the backwash of the Pittsburgh Brewing Company case. A clarification of the principles that flow out of that case is necessary. There is a doubt as to the meaning of the case and whether the basis for subsequent depreciation is affected by excess unused depreciation of prior loss years or whether the adjustment comes in only at the time of the sale of the asset. Then, too, the way the thing now works, in the case of other deductions, where there is a recoupment made in one year for items deducted in a previous year that did no good from a tax standpoint in the previous year, there is no income. Unfortunately, the same principle does not apply to depreciation except to the extent that the depreciation deduction was in excess of the amount allowable. There is no basic reason for discriminating thus against depreciation. In determining gain or loss on the depreciation of a depreciable asset, no deduction from base should be made for previously deducted depreciation that did no tax good.

Just a word of caution about this recommendation. It is made merely on the basis of consistency with other deductions and not on general principle. Frankly, I do not see eye to eye with the principle, even as it applies to other deductions. My point, however, is for consistency and not for the arguing of the principle involved.

A natural sequel to the foregoing is the question of the adjustment of the base for the depreciation allowable but not less than the depreciation allowed. This, naturally, can only work in favor of the government and makes it possible for the government to adjust the base by more depreciation than was claimed or that it permitted to be deducted in the first instance, if it later changes its mind about the amount that should have been allowable. The rule should be that adjustment should be made only for the depreciation allowed. Where no return is filed, the amount allowable can be considered as the amount allowed and the amount allowable should be determined by reference to the base and rate of depreciation of the same asset in other years.

Finally, we are faced with the realization that the whole question of tampering with depreciation rates is something that requires a stop-

gap, particularly when done on a retroactive basis after the statute of limitations has run on the earlier years. This ties in with Section 820 and the need for permitting retroactive adjustment on the total disallowance of deductions.

I hope I have not served to further confuse the thinking of this group. Any discussion of a topic so imbedded with ramifications as is the treatment of depreciation and the allocation of reasonable rates is sufficient headache, but to ask for a convergence of diffused opinion really marks the inquirer as an individual who can take it.

CHAIRMAN DeVITT: That is a real contribution, Mr. Seidman. Thank you very much. Our time is up, and as usual there has not been sufficient time to cover the subject. There is no opportunity for summarizing the discussion; no doubt, it is unnecessary anyway. It is my belief that our time has been well spent and that this meeting has made a substantial contribution to our accounting philosophy and thinking.

I would like to take this opportunity to thank all of you for being here and participating so wholeheartedly in the discussion in the way that you have.

It may be of interest to this group to know that the National Association of Cost Accountants has appointed a committee which is working in co-operation with the National Association of Manufacturers and, in turn, with a committee from the American Institute, in making a study of depreciation as it relates to Federal tax laws, and their administration.

I hereby declare this meeting adjourned.

... The meeting adjourned at five-five o'clock...

INFORMATION FOR FOREMEN AND EMPLOYEES

Chairman: MASON SMITH

Partner, McKinsey, Kearney and Company,
Chicago, Ill.

CHAIRMAN SMITH: It might be worth while to open this session with some introductory remarks aimed to give direction to our thinking in this large group. I know that there may be a tendency to ramble and spend too much time on a certain subject, leaving other phases almost entirely untouched.

If you will notice, the title "Information for Foremen and Employees" is really two titles. The "Information for Foremen" part of it was broadened to include not only the factory personnel but other people outside the realm of production. The term "supervisory personnel" includes foremen, branch managers of both sales and factory, and department heads at the home office.

I thought it might be desirable, also, to concentrate our attention on the kind of activities that each of these supervisory positions entail. For example, one of the activities for which the supervisory group in the factory is responsible is the procurement of output on schedule. They are required to turn out a certain amount of goods on time and produce it at satisfactory standard or budgeted expense for labor, material and burden. We want them to maintain operating conditions in harmony with company policies.

The last few years have seen a need for something other than just figures, if we are to know whether a factory supervisor is a good supervisor or not. We have placed a good deal more emphasis on the handling of people, for example, and after fumbling around with that problem for a while, most companies have come to the conclusion that a personnel department can't do that job. It has to be done in the line.

Selling supervisors, for example, are interested in a satisfactory volume of sales from each salesman at reasonable expense. They will require information concerning products, customers, territories, etc., to help them reach their sales objective. We could indicate the same scope of activities for all department heads.

"Reports for Employees," the second portion of this subject, has had a lot of publicity. These reports are generally prepared as balance sheets which are a good deal more informative than they used to be and are presented in terms expanding and clarifying ordinary financial information of various kinds.

I have had quite a lot of experience in personnel work in the last three years, and I believe there is a growing demand on the part of the rank and file for information about the business in which they are employed. I don't know whether these inquiries are the result of inquisitiveness or interest—I couldn't tell the difference between the two—but I do find more and more people coming to the personnel office and saying, "Why do you do this? What are you going to do about that? Don't you think we could have done so and so?" That has given rise to a need for a considerable amount of information to

be given to employees. Some companies have found, to their sorrow, that if they didn't give it to them in the way they wanted them to receive it, they got it from sources they didn't wish to have their employees use.

Third, having considered the two breakdowns, I would like to make this one further point. A report of an activity is merely a facilitating device which makes it possible for the person who supervises the activity to handle it a little better. If I am a foreman, a report ought to be something that will help me be a better foreman. If it doesn't do this, I think we should question the value of that report.

Supervision can be broken down into two broad classifications. We either supervise through our own observation of what is going on, or through information from reports. I would like to have us keep that thought in mind as we raise questions.

I don't care what tack this discussion takes this afternoon. This is your meeting, not mine. I prepared no speech. I don't intend to continue to talk. I will referee in case it gets too hot.

Who will be the first to raise a point or suggest a topic?

HOW MUCH INFORMATION SHALL BE GIVEN FOREMEN?

HOMER W. STANHOPE (*Cost Accountant, Anheuser-Busch, Inc., St. Louis, Mo.*): I would like to ask a question of some of the other members, as to whether they give the foremen any type of figures whatsoever, and also whether or not some organizations give the foremen departmental expenses.

CHAIRMAN SMITH: Mr. Stanhope asks whether we give foremen any figures whatever, or whether we limit that, as I take it, to certain basic information about their operations.

JOSEPH H. GILBY (*Partner, J. H. Gilby & Co., Chicago, Ill.*): Right there could I ask something? I would like to know what information the foreman would need or want in a brewery operation?

MR. STANHOPE: I think the figures in the hands of a foreman are very important in this respect—that there are a lot of expenses that the foremen control. Take, for instance, supplies and cleaning materials, which are quite expensive. Labor in a brewery is the most

important of all, and we feel the foremen are directly responsible for it. There are, in addition, a number of other items of expense which are controllable by the foremen and in which they are interested.

MR. GILBY: I asked that question because, even in the matters Mr. Stanhope is speaking of, I think the less the foreman knows about the expense, the better he will be able to control it by merely being told that "this is too high; it must be cut down." I don't think statistics would help at all.

EDWARD P. GILLANE (*Works Accountant, Underwood Elliott Fisher Co., Bridgeport, Conn.*): Under our routine we supply each foreman in the entire factory weekly with a distribution of the entire payroll for his department. He is aware of how much productive labor and how much indirect labor has accumulated in his department each week. We believe the foreman's responsibility demands that he receive this payroll information by accounts each week.

We also furnish each foreman with a detailed list showing quantity and value of all non-productive material used or purchased for his department. Very often non-productive materials are being used, the value of which is entirely out of line with the operation or job that it is necessary to perform. He will bring these items up and say, "I do not need such expensive material." We have found in our experience that giving information to the foreman, whether it relates to scrap, indirect labor, or any other item, makes him feel a definite responsibility for the expenditures in his department.

Any foreman is entitled to any information he requests relative to the cost of operating his particular department. In order not to increase the clerical cost, we follow a definite routine in supplying this information. For instance, when a purchase of indirect material is to be made, the account and department are predetermined, and the distribution made direct to a particular foreman. The accounting department furnishes the foreman with a detailed list.

The distribution of labor is taken care of in the payroll department, and all they do is make an extra copy of the labor distribution for each particular department and furnish it to the foreman each week, so that he can continually compare the cost of operating his department.

I feel that when a foreman has all of this information, and wants to make a real showing, he is in a position to do so. Should he feel

it necessary, he is in a position to go to the superintendent and say, "I have cut expenses and feel that I am entitled to a raise."

BUDGET REPORTS TO FOREMEN

R. F. BEAVEN (*Factory Accountant, The Mengel Co., Louisville, Ky.*) : We go a little further than that. Just recently, about eight or ten months ago, I worked out a budget for each foreman and set up a standard for all items of burden that they have direct contact with, or that they can control in any degree at all. We then budget them on each of those accounts at the beginning of the month, figure the efficiency at the end of the month, and pay them a bonus to keep these accounts down below whatever the budget may be. I think you would be surprised how much they have cut some of those accounts since we started this system of budgetary control.

CHAIRMAN SMITH : That includes labor?

MR. BEAVEN : Indirect labor and all expense supplies.

CHAIRMAN SMITH : I raised that question for one reason. Some companies have had some trouble on that labor question, as we all know.

It is part of the job of a foreman to see that his men turn out a standard volume of production, but there is some weakness in allowing a foreman to secure added compensation by reducing labor costs. This may lead to organization of employees.

MR. BEAVEN : The standards are set on direct labor. It depends on how much volume there is on a basis of standard direct labor, how much they are allowed to spend for indirect labor and supplies; the result is figured as efficiency at the end of the month, and we have a scale in which each foreman participates.

D. D. RICHARDSON (*Treasurer, Monroe Calculating Machine Co., Orange, N. J.*) : We have a combination of the two systems. As Mr. Gillane said, you take the foreman into your confidence in preparing the budget. We plan our production schedules, and then call in the foremen from the various departments and budget their direct labor, as well as indirect labor and expenses, the reason being that you might have jobs in a department where either a 65¢ or an 85¢

an hour man can do the work, and this is the foreman's responsibility. The foreman feels he has a part in the planning because, when the production schedule is laid out, he sits down with our budget director and cost supervisor and agrees to his budget for the next month. In some cases, the budget is for three months' operations. Every foreman gets a statement of his past week's operations on Tuesday of the following week, showing actual compared with budget, and explanations where necessary.

He can see whether his direct labor is in line with his budget, or whether any indirect items are out of line. Suppose the maintenance department has charged his department for repairing some of his equipment, and he doesn't believe the maintenance man spent that much time in his department. He has a right to question the charge.

We do not, however, charge the foremen with such fixed expenses as they have no control over. We feel the foreman cannot control depreciation, taxes, etc., and therefore, we do not show them on his budget. Otherwise, he has budget comparison every week of both direct and indirect charges to his department.

CHAIRMAN SMITH: I would like to have a show of hands on how many people here take the foremen into their confidence in setting budgets of the operations of their departments. I would say about 20 per cent of the companies here. I raised that question for one reason. That same question was raised ten years ago with quite different results.

MR. GILBY: Will you ask another question? How many represent large companies?

CHAIRMAN SMITH: How would you define a "large company"?

MR. GILBY: I would define a large company as one that has specialization in its management, a vice president in charge of sales, another in charge of production, etc.

CHAIRMAN SMITH: May I have a showing of hands on that? How many who raised their hands the first time represent large companies? I would say at least half of those who raised their hands the first time. Apparently the management of those companies think there is some benefit in bringing the foreman in to help plan his own operations.

PALMER W. HANCOCK (*General Cost Auditor, Owens-Illinois Glass Co., Toledo, Ohio*): May I suggest that the size of a company should not necessarily determine the degree to which foremen enter into the cost control picture. For instance, I raised my hand as representing a large company. We have a number of factories, none of which individually can be classified as really large. They range in number of employees from about 1,800 down to perhaps 300. In all factories, regardless of size, we have the same type of cost control and the foremen in all are given the same information and the same opportunity to help plan their cost control programs. I think the show of hands also indicated that many small companies, as well as large ones, have realized the benefits to be obtained from such a program.

CHAIRMAN SMITH: How many of those who raised their hands, include in that budgeting process other than controllable expenses? How many of you eliminate such items as depreciation and taxes? May I see hands on that? About half of you again do that. The rest, I take it, would include those items.

Now let us shift over a moment to sales. Where you have a district sales manager in the field, you want him to sell the right volume of products at the right cost. How many of you bring him in to help you plan volume and the way that volume is going to be secured? Not so many.

MR. GILLANE: Mr. Smith, I think that may be a little misleading. A number of us are connected with companies which are subsidiaries. I know one very successful company in the brewing industry that gives no gross profit information by territories, by products, by sale, or anything else, to even the top sales management. They get no figures at all. They say, "We make a good product. You go out and sell it, and sell a lot of it." That's rather a hard boiled attitude.

NELSON L. McCULLY (*Controller, Bauer & Black, Chicago, Ill.*): I would like to ask a question: "How can you be fair if you give a man responsibility without giving him information covering his accomplishments under that responsibility?" It seems to me that, whether the person be a foreman, a section man or a manager, if he has been given responsibility, he must also be given all pertinent information regarding his discharge of that responsibility.

CHAIRMAN SMITH: How many would agree with that statement, that if you hold somebody responsible you have to give information on everything on which they are responsible? That is a fairly generally approved idea. There are still some companies, undoubtedly, not doing it.

MR. RICHARDSON: I am in agreement with that statement. We carry it out so far as our sales representatives in the field are concerned, not only on a quota basis but also by a measurement of efficiency. However, this measurement is taken once a month in the field rather than weekly as in the factory. I believe you cannot hold a man accountable for a job unless you show him his record. Let him see the figures, and then go over carefully with him those points where he is not meeting the proper standard of efficiency.

MR. BEAVEN: In answer to the question about the frequency of these reports, in our plant we determine the budget the first of the month; it is checked twice during the month to see if it conforms to what we are actually doing, and at the end of the month it is checked for efficiency with the actual figures.

MR. STANHOPE: I have another question in this connection. When budgeted figures are reported to the foremen, along with the actual expenses, what reaction do you get? We find that very few foremen accept the budgeted figure.

MEMBER: Instead of giving detailed figures, we give a unit cost based on cost per hour or cost per ton, whatever it is. We run this as a comparative chart for six months. That is, in January there will be one budget, and a second in June. We send out photostatic copies of the chart. It works out very successfully.

CHAIRMAN SMITH: Mr. Waymire, what about this question of reports to your district sales people?

J. O. WAYMIRE (*Distribution Cost Accountant, Eli Lilly & Co., Indianapolis, Ind.*) : They are given a sales quota that has been scientifically prepared by the sales research department. Each month reports are sent to the district managers showing their accomplishment as compared with their quota for the period. This is done by groups

of products. The districts are rated by per cent of quota attained and this is sent to all district managers, so that they may know whether they stand first or last in the list. This provides a real incentive for doing a good job.

OUTLINE OF INFORMATION TO FOREMEN

LAWRENCE W. DOWNIE (*General Auditor, Kelsey-Hayes Wheel Co., Detroit, Mich.*): It seems to me this question of information for the foreman is predicated on two assumptions: one, that we are trying to make better foremen, and two, that we are trying to make better costs.

Thus far this discussion has emphasized the importance of giving the foreman information to better our costs. However, it seems to me we have first to consider giving the foreman information that will make him a better foreman because, if he becomes a better foreman, we automatically better our costs.

Before determining whether we should take the foreman into consideration in establishing our budget, there is a further question of just how far we are going to go in educating that foreman in cost information, and in handling his labor and human relations problems. I don't see how we can do much of a job of educating that foreman unless we start right at the bottom of the program in the preparation of our cost figures, budget figures and estimate figures. We certainly would take a foreman into consideration if we were estimating new business for his department. Why not take him into consideration in establishing standards we expect him to meet in that department? We certainly should, at least, discuss it with him. However, in working this out with the foreman, we can get better results more frequently, if we first approach him from the human point of view and talk in terms of men and jobs rather than dollars and cents.

If you were analyzing any one department as an accountant, you would analyze it first from the personnel of that department, irrespective of the amount of money paid. I think we should approach it with the foremen from that point of view. Let us take each employee of that department, analyze the employee, the employee's job, his need for his job, his duties and the necessity for the duties; let us have consultations with him constantly and build up from the bottom. We start with the men sweeping the floor, the men handling

materials, the men setting up tools and dies, the men passing inspection. It comes as a natural course to that foreman to understand the step-by-step process of preparing a budget by taking each man individually. In that way we are able to determine the necessity for each man in the presence of the foreman. Then, when we have dealt with the personnel, it is quite a simple matter to convert to money and to unit costs.

It is particularly adaptable to our own particular concern. If we have done that first, it seems to me there will be no difficulty at all with the foreman as to whether he can meet our budget or whether the expenses involved are necessary. In addition, we find frequently that allowances we were ready to put in the budget are not so necessary as we thought they were, when we get down to dealing with personalities rather than dollars and cents.

I believe this is a vital point in the education of our foremen in which we have been woefully lacking in American industry.

I should like to carry the question of information to foremen beyond that of controlling costs within his immediate department, to the point of company-wide policies.

Actually, the foreman makes or breaks your company in dealing with labor, particularly where labor is organized. You stand or fall on the judgment of your foremen, and if we don't present our foremen with enough facts about our company and why a company makes certain decisions, we can hardly expect these foremen to make proper decisions on which we have to stand or fall in so far as our work is concerned. It seems to me that we must be prepared to take our foremen and supervisory staff into our confidence, almost to the extent to which we talk to the management.

I would like to have an expression of opinion from some other members as to just how far they think that policy could be carried. We all know that during the past few years there has been a great deal of labor agitation. Any company that has not been operating on a budget, or giving the necessary information to a foreman, is apt to have a foreman who feels that he is being discriminated against, and his feelings can be communicated to the men and cause discontent throughout his entire department.

If you expect the foreman to cut productive labor rates, you are going to immediately cause that foreman and industry itself a great deal of trouble. If you start on the indirect side of the picture and

give him the necessary information, so that he has full control, you will be getting off to a better start.

In most industries nowadays we usually have a planning and time-study or methods department, and an engineering standards department. All change in processing and rates may originate with these departments. This leaves the foreman in a position where he can obtain the utmost co-operation from all of his employees. Rates can be reduced if the time-study, planning and engineering departments decided they should change their method of processing. This would result in automatic cost reductions, but rates would only be changed in the event that you were to change the method of processing.

With all the employees understanding this, the foreman would be in a fine position to tell them that the engineers have developed a new way of processing and that while the methods are being changed, the actual rates on earnings would not be reduced. Once you give out the information that you are out to cut rates, and start reducing the pay of any men in the organization, I believe you are going to head into a great deal of labor trouble.

I don't know how other members may feel about this angle, but I believe it is an important point to bring out.

CHAIRMAN SMITH: One significant aspect of Mr. Downie's remarks is that he has delved into quite a number of problems that are beyond figures. Some months ago I heard a very good talk by the personnel manager of the Owens-Illinois Glass Company, in which he described the function of personnel directors as being like that of an old time quarterback. He called the play, took the ball from the center and passed it to the halfback, and then followed the play. There is a lot of meat in that thought.

I take it Mr. Downie has in mind even going so far as to provide a foreman with personnel records of his subordinates. He would probably attempt to help the foreman use these records as a basis for better technique in handling people.

It seems everywhere I go that the tendency is to bring the supervisory staff more and more into the problem of long range cost reductions through teaching them to become better managers.

MR. McCULLY: I would like to make a statement which may be entirely out of order here. We have been talking about the impor-

tance of educating the foreman. With that I agree. At the same time I cannot resist going on record as to the importance of accountants being receptive to the education which they can receive from a foreman. A lot of difficulties and friction would be avoided, and a lot of costs would be reduced if we accountants were more open-minded to the opinions of foremen and more receptive to the education which we can get from them.

LEONARD W. STIEGEL (*Auditor, Deere & Co., Moline, Ill.*) : I would like to emphasize what Mr. McCully has said. From experience I have come to this conclusion, similar to that of Mr. Downie, that every type of cost report must yield to the principle of some type of personnel problem.

In my experience in educating foremen on cost work, it is so easy to make him feel that his only job is to figure out how to make savings. I think in the long run you can cause him to be prejudiced, perhaps, to some of the more important policies of the company.

I would like to look at the foreman as the man who represents the company to his men. If I wanted to find out something about your company, I would make the acquaintance of your foremen.

If we want to check up on the work of our accounting departments or cost departments, we discuss their cost reports with our key foremen. And, as Mr. McCully said, I think I learn more about cost accounting through the foremen than I do from many other sources.

Looking at the sales end of the business, we say that our dealer represents the company to the customer. We are particular about the kind of reports that we send our dealer, simply because he becomes the company to the public, so I might say, as a whole, I think all this inter-relationship must yield to the principle of a general problem, as Mr. Downie brought out, that there is, for want of a better term, a social responsibility that industry must assume whenever it issues cost reduction reports. The foreman, on the one hand, with employees, and the dealer or salesman, on the other hand, with the public.

MEMBER: Following Mr. Stiegel's remarks about learning cost accounting from the foremen, isn't it true we have had certain classes of cost accounting for a good many years, even before budgets, with the idea of controlling costs? They weren't always for the determination of costs, but often for estimating, or the setting of standards.

They were simply to break down costs historically, and in some fashion to control. Out of this came budgeting and all of the other things that we have today. But in the beginning, as we were changing the cost system and putting in a new one, it seems to me that the place we should have gone to get the detailed breakdowns should have been the foreman. In other words, ask him what breakdowns he needed in order to properly control his costs. I don't think the cost accountant can sit back and figure out that information for the foreman.

In addition, as our systems develop, we all have certain necessary changes to make from time to time. We can streamline our accounts, and make certain combinations where it is not necessary to have a fine breakdown. Situations then may arise where it is necessary to make a finer breakdown. Again, it seems to me, that it is up to the foreman to decide.

GIVING THE FOREMAN GENERAL COMPANY INFORMATION

THOMAS E. HURNS (*Assistant Secretary, Detroit Edison Co., Detroit, Mich.*): I think Mr. Downie had something in mind apart from his costs. Now we are getting back to the discussion of costs and personnel records of the particular group that the foreman is responsible for.

I wonder if Mr. Downie didn't have in mind giving the foreman, and possibly the employees, general information regarding the company, its business, its prospects, contracts that it may be bidding on or contracts that it may have lost for some reason or other, and the growth and history of the company; in other words, general information so that the foreman and the employees will become more interested in the company and consider themselves more a part of the company.

I wonder if that wasn't what he was leading to, rather than this question of taking the foreman into consideration when you are calculating your allowed cost. We are almost all in agreement that you have to consider him in checking your costs and your budget.

CHAIRMAN SMITH: I think Mr. Downie had two things in mind: the question of using this detailed information concerning his department for an educational purpose, and also some of these broader matters. There ought to be wide difference of opinion in this dis-

cussion group as to how much information about the company's affairs should be divulged.

PAUL L. JACOBY (*Director of Accounting, Ralston Purina Co., St. Louis, Mo.*): The last questionnaire, some of you men may have noticed, from the Federal Trade Commission, asks vital information about the company's business. I have forgotten exactly how it was stated, but it was to the effect that if you give information to your employees, you should attach a copy of the report. With a corporation whose stock is listed, and is therefore pretty nearly forced to issue reports, that can be done, but I wonder how many men there are here who belong to closed corporations that issue reports in regular form, giving information to the rank and file of the employees in addition to the foremen.

CHAIRMAN SMITH: Let's have a show of hands. How many men are here from closed corporations? Not many here. How many of those give information to the employees of the same general sort? Not one of them.

MR. JACOBY: That's what I was afraid of.

CHAIRMAN SMITH: Let's stay on that point for a few minutes, gentlemen. What kind of things should be transmitted from the major departmental management level to foremen? How much should we tell the foreman, for example, about the selling problems of the business?

M. SYLVESTER KLEIN (*Controller, United Motors Service, Detroit, Mich.*): Don't you think, before the question is asked, we should state how many men in a supervision capacity there are between the workmen and the management—in other words, whether this foreman is the only man between the workmen and the management in charge of the plant? One type of information would go to him, perhaps a great deal of information. If there are several others, and he is only the first man next to the workman, with many other supervisors above, perhaps a superintendent or whatever I might call him, and above him a works manager, the amount of information drifting down to the foreman, if he is defined as the first man above the workmen, would be limited.

CHAIRMAN SMITH: I mean the first man above the workmen who

are going to be influenced by information given them and who are going to talk about it, whether you like it or not. We have above them a foreman who has any given number depending on him. I am not interested in the levels above the foreman at the moment.

MR. STIEGEL: We say the sales of our company are made in the factory, as well as the control of quality. The foreman shares in the responsibility for sales. If he gets everybody in his department to do the particular job that they are supposed to do, and do it right, we know that the consumer out on the territory can depend on the quality of our product.

We trace every complaint out in the field back to its ultimate source, and just recently we found a peculiar situation. We had a molder who had been making a certain coupling for about fifteen years or more. He died and it was necessary to replace him. The foreman in the department always did the selecting and training because of the difficulties in the job. A few months later trouble arose about that coupling. That particular part did not work perfectly and we discovered that the reason was that the new molder didn't pack his sand like the previous molder. The same personal touch wasn't there.

We reported it to the foreman, and as a result, the employee received his first experience in becoming sales minded for the company. Your product has to be up to specifications, we say to our foremen, since our sales in the field are made in the factory, and we explain the foreman's part, as well as the employee's. When we make corrections such as this one, the foreman and employee both take a different viewpoint toward their work. We explain that the farmer out in the field got in trouble, and it cost us so much to correct it. We point out how it happened. This is the type of sales information we give the employees, not figures or anything else.

CHAIRMAN SMITH: That, of course, is what you broadly term building a service consciousness in the minds of everyone. There are other things, however, about the company's activities that are interesting. Would any of you agree that you wanted to bring those fellows into a simple type of meeting to discuss some of these matters?

MR. DOWNIE: Yes, Mr. Chairman, I would agree to that. I would bring them in, eight or ten or a dozen at a time. I have had occasion during the last few months to conduct a series of meetings

among workmen, foremen and supervisors, and the thing that dumbfounded me the most was the complete lack of insight on the part of the workmen and foremen as to the functioning of a business. It seems to me that the capitalistic system has brought about just what we are talking about. It is the workmen in America today who make or break our industry. We must meet that problem and the only way to do so is to take the workmen into our confidence and gradually build up in them, in turn, confidence in us.

I think it is very much in order for us to take our supervisors, from our foreman down, into consideration in all of our company policies. There may be certain policies that demand that they be kept more or less secret, in the inner circle, but there are one thousand and one decisions a day which are very easily enforced, in most cases, if the people on the other end know why the decisions are made. The man in the shop is no different from any man in this room. He is a human being, married, has a family, and thinks just as much of them. Most of us like to know why we are doing our job, the necessity for it, and what use it is being put to. The man in the shop feels exactly the same way, and you would be surprised to find how large a percentage of the job he can do without any help from us.

If he knows what we are driving at he can do by far the bigger portion of the job, and you can cut a lot out of your cost department. If we will function a little more with the men, they will automatically reduce costs and keep a step ahead of us.

We are helped considerably by the point Mr. Stiegel brought up. I agree that in carrying out this program we must forget figures to some extent. We are not talking about costs. We are talking about personalities, and must deal with personality problems and solutions, and not dollars and cents.

MR. GILLANE: It seems to me, from what has been said at this meeting, that we are arriving at the conclusion that the head management in each case gives a lead as to what policy should be followed. We have representatives here, I know, from a number of office equipment industrial organizations. If you will compare their organization charts and personnel, you will come to the conclusion that the organization chart, as set up for any industry, represents the ideas of the management of that particular industry. Briefly, to mention a few, many organization charts show that the order entry, shipping, stock-

room, and time-study departments come under the supervision of the controller. Other charts will show that the order entry, shipping, stockroom, and time-study departments come under the supervision of the works manager.

Governor Raymond E. Baldwin, of the State of Connecticut, proclaimed May 16 to 19 inclusive as Connecticut Industrial Open House Days. On Thursday and Friday, May 16 and 17, the Bridgeport Works had open house, and the public at large was invited to go through the factory under the direction of guides selected by the committee in charge of this event. The affair was very successful with many of the employees' families attending. In our new reception room there was a display of all types of accounting and adding machines made at the Bridgeport Works. Nearly one hundred Connecticut manufacturing concerns held open house and provided guides to explain production operations.

It was again surprising to find out that many factories did not desire to take advantage of this opportunity, as the results proved the visitors were amazed with the work being done.

I felt I should mention this particular angle because it does result in educating the general public in the important part industry plays in the lives of the general public.

CHAIRMAN SMITH: This comes to the point made by Mr. Downie. The whole question involved is in so educating the workers and foremen that they can help us to sell to the American public the worthwhileness of business, how it operates, and why we do things the way we do them.

MR. STANHOPE: I have another question in connection with reports to foremen. I am wondering if any industries represented here have union contracts and also union foremen?

CHAIRMAN SMITH: How many companies have union contracts? About twenty-five. How many companies here have contracts with a union for all or a majority of their men, and have union foremen? I would say about four out of twenty-five.

INFORMATION FOR EMPLOYEES

I think we might spend a few minutes on the matter of information to employees generally. Has anyone any questions to raise in con-

nection with the scope, nature, and frequency of that kind of information? I don't mean to cut you off on this supervisory matter, but we should cover the entire subject.

MR. STIEGEL: I might add one thought along that line that reaches this same premise. What is an employee? Does he accept the rather liberal thought that he is a partner in the business, or do you deal with him rather individually, in that you are providing him with employment so that he can make a livelihood for himself and his family?

Now, I am of the opinion that if I wanted to talk to an employee about working for me, I would like to indicate that the matter of relationship with the company was a rather individual relationship; that we are going to get together in order that he may perform a certain service, or task, or contribute what he has for a price we think is fair. By so doing we develop a certain sense of dependence upon each other individually. This relationship is his security, and it would be the employer's too, if they both did their jobs right. I would rather be slow to broaden out very far into general business considerations.

I believe I would have an employees' meeting occasionally where he would be acquainted with the importance of our company in the industry, particularly emphasizing that this company is operated in such a manner that if he performs his task in the best manner that he knows how, as long as the company is secure he will make a good living for himself and his family, but I am rather of the conservative school in not going too far in giving the employee too much information.

MR. GILLANE: I would like to say a word on this particular subject with the understanding that the most important item to any employee in a factory is what he gets in his pay envelope. I believe industry can do a great deal to help itself out in this respect. We have community surveys made covering rates for all occupations and we have this information available so that when an employee comes to us we are in a position to tell him what industry and the community are paying for any particular type of work, and if he feels that more money is being paid for a particular classification of labor, we are in a position to prove to an employee that such is not the case.

It happened only approximately a month ago that I had a call on the telephone and this other member from another industry stated,

"I would like to find out the rate you are paying your electric truck operators in your factory. I have been advised that you are paying five cents an hour more than we are." I immediately advised him that we do not employ any electric truck operators. This placed this man in a position to refute idle gossip or incorrect information which his employee had.

I believe that the major industries have an advantage in the exchange of information relative to rates, so that all classifications of employees are properly evaluated and correspond to the rest of the jobs in the factory, and also in the entire community.

I believe industry in the past, due to a few small sweat shops which might be operating, has been under a cloud before the general public; but if the public understood that all industries are trying to give the employees their full share, public opinion would not be against industry. This thought concerns not only factory operators, but can be applied to clerical workers in industry and in the community. Comparison can be made, taking into consideration Civil Service rates.

With all rates based on actual fact, employees would be enabled to see the light and realize that they are obtaining more from industry than they could get from other positions in the community.

CHAIRMAN SMITH: Seemingly, we are in agreement that we take the foreman, as our key man, into our entire management situation; that we have him work with us and we work with him in developing budgets for his operations; that we issue information to him in comparative form that will show him where he stands, and use it in working with him to counsel and guide him in performing a better job. In addition to the general bare costs or other accounting or statistical data we might issue, we should provide the kind of information that will broaden his scope and make him approximate, to some degree, the management competence of a small shop proprietor.

There seems to be a rather general feeling, also, from the remarks made here, that we ought to be fairly liberal in our information to employees about the company.

. . . The meeting adjourned at three-thirty o'clock . . .

SESSION V
CO-OPERATIVE INDUSTRY EFFORT

THURSDAY MORNING, JUNE 27, 1940

LAWRENCE DOWNIE, General Auditor, Kelsey-Hayes Wheel
Company, Detroit, Mich., *Chairman*

EARL CONSTANTINE graduated from the University of Minnesota in the class of 1906 and spent three years teaching in the Spokane [Washington] High Schools before beginning a career of trade association work as Manager of Associated Industries of Inland Empire in 1911. Two years later he became Manager of Federated Industries of Washington and in 1916 moved to New York City to become Secretary of the National Industrial Council. In 1921 he assumed the additional duties of Managing Executive of the National Association of Manufacturers but resigned both positions in 1926 to become Treasurer of the magazine *Sales Management*. Three years later, Mr. Constantine joined the firm of Ulen & Co. as their representative in Bogota, Colombia, but in 1932 returned to the United States to assume the position he now holds, President of the National Association of Hosiery Manufacturers. At the present time, Mr. Constantine is also President of the Trade Association Executives of New York City and President of American Trade Association Executives. In addition, he is Director of the United States Institute for Textile Research, Inc.

CO-OPERATIVE INDUSTRY EFFORT

CHAIRMAN DOWNIE: When your Program Committee was trying to organize a program for this Twenty-first Annual Convention, we received a goodly number of special requests from various parts of the country asking us to set aside one day of this program for a discussion of co-operation in industry. It seems that a substantial number of our members are quite anxious to get together with others in industry in a discussion of mutual accounting, cost and merchandising problems to determine just what the other fellow is doing and how his practice can be applied to their own various enterprises, the idea being a reduction of costs to their concerns and to the ultimate consumer. Because of these requests, the Committee has set aside one full day for a discussion of this subject.

We propose to approach it from three angles. First, it will be treated this morning from the point of view of what trade associations are doing along these lines, and the results they are obtaining from their efforts. A thoroughly qualified representative of a trade association will present his views on this aspect of the problem.

This afternoon we will discuss, first, what is possible under present law and government attitudes. In other words, not so much what we would like to do, but what we are permitted to do will be the theme of the first discussion period this afternoon, and it will be conducted by a thoroughly qualified representative of the United States Department of Justice.

The second part of the afternoon discussion will be devoted to a practical application of some of the things we would like to do in industry. We will have presented to us various plans, charts and statistical information which it is felt should be compiled by industry and compared, one concern with another, with the object of greater efficiency and reduced costs to corporations and ultimate consumers.

In arranging for speakers for today's session, the Committee had the co-operation of members of the Spot Club and others in N.A.C.A., and I wish at this time to express my personal thanks to those people, and specifically to our President-elect, Mr. Victor Stempf, and to Mr. Arthur Gunnarson of the United States Chamber of Commerce, who have, through their efforts, made a part of this program possible.

The speaker this morning is a very well qualified man in this as-

signment, and is a personal friend of long standing of President-elect Stempf. I am going to call on Vic Stempf to introduce the speaker of the morning. It gives me a great deal of pleasure to introduce to you, Mr. Stempf, who really doesn't require an introduction.

PRESIDENT-ELECT STEMPF: I have said several times in the past that one can pay no greater compliment to a speaker than to introduce him briefly. However, I take such a keen personal pleasure in this opportunity that I shall ask you to bear with me while I give you a few of the high spots of our speaker's career.

I think underlying all of his activities there is the fact that from the very beginning he had an interest in diplomatic relations and in negotiations that involve that type of approach. He is a graduate of the University of Minnesota, spent some time in teaching, and after his teaching career immediately found a place for himself in one place or another from the Pacific Coast to the East in positions of an executive character, in associated industries, and other organizations of that type. At the present time he is President of the National Association of Hosiery Manufacturers, and also President of the American Trade Association Executives.

My personal contact has been primarily, and rather amusingly, largely through country club activities. Mr. Constantine was one of the early presidents of my country club. I succeeded him some years later. During the early thirties, we got into a little difficulty, and Earl and I decided, "We have this 77-b situation, and maybe we can find an application of it to the country club." I think, as a matter of fact, we were one of the first clubs in New York to use that vehicle for a reorganization. It took a lot of negotiation with the various interests in the membership, our creditors, and elsewhere, and I learned to admire very greatly our speaker's patience, his deliberate approach, and his keen understanding of the financial aspects of that situation, which subsequently I have found to be reflected, likewise, in the position that he now occupies.

Shortly before this program was devised, I had the pleasure of hearing him speak at a meeting of the National Industrial Conference Board in New York on a subject which was quite closely related to that which we are discussing today, and I was impressed by the fact that, as in all my other contacts, he hit straight from the shoulder and right to the point, and yet was always obviously seeking the truthful and correct answer to the problem involved.

It gives me great pleasure, indeed, to introduce to you, Mr. Earl Constantine, who will discuss this general topic of industry co-operation from the standpoint of the trade association executive.

THE TRADE ASSOCIATION AND CO-OPERATIVE INDUSTRY EFFORT

EARL CONSTANTINE

President, National Association of Hosiery Manufacturers,
New York, N. Y.

OF COURSE, I feel very flattered by the very generous remarks of my good friend, Victor Stempf, in presenting me to this highly specialized audience.

All of us have had the experience of being caught off our guard, so to speak, in accepting an engagement, and waking up the morning after and wondering whether we were wise in undertaking it or not. I confess I had some doubts in my own mind, but finally concluded, first, that I had given my word and, second, that I thought it was a challenge to me to display at least my temerity. Certainly a man who cannot claim to be a lawyer, and who is not a cost accountant, must have temerity to come before this audience, of all audiences in this country, to speak on the subject of cost accounting.

I hope that what I may say this morning will serve as a contribution to your discussions and possibly stimulate some thoughts that might prove to be fruitful.

I heard a story recently which probably is a chestnut, but I know you are gentlemen enough to control your feelings and pretend you haven't heard it before. It has to do with a poor Arab who was making his way across the desert at the end of the day, headed home, where his wife had his pilaf ready for him. It was his custom to stop at the last oasis short of his own to quench his thirst. He did so on this occasion. When he was about to remount his camel, he happened to notice three strangers under the date palm trees, and their voices were rising higher and higher. Evidently some serious dispute was taking place. He didn't know what to do. He said to himself, "It is none of your business; you had better be going home. You have troubles enough of your own. But, on the other hand, perhaps you should try to be helpful here."

So he decided to be helpful, and he went up and said, "Strangers, I don't want to intrude in your affairs, but perhaps I can be helpful if you will tell me what your problem is."

They said, "Praise be to Allah! We are just looking for someone to help us. Our father, of revered memory, passed away recently and he left his fortune to be divided among three of us. We are brothers, although you wouldn't guess that from our quarrel. He left us all his camels, and provided that the favorite one of us should take half of them, the next one should take a quarter of them, and the third one should take a fifth. He left us nineteen camels, and we haven't quite been able to decide how to handle his wishes and put them into effect."

The Arab of Samaritan instincts scratched his head, and finally said, "If your father left nineteen beasts, he indeed was a wealthy man. I have only this old one here. He is not much good, but to be helpful to you I am going to present this camel to you and suggest that one of you take ten, the next take five, and the last take four. Then, don't you think you ought to allow me to take my camel back and go home, where my pilaf is waiting for me?"

So, like this Arab, I shall hope that something I say here may prove helpful.

In an economy of private enterprise and profit, the capital invested and utilized can be compensated only by operations which net prices higher than the cost of production and distribution. Reasonable profit is a proper return on investment and constitutes an incentive to enterprise and good management.

No business enterprise can long continue to function on a basis which is not profitable. For a limited period of time operations can carry on if there be accumulated reserves upon which to draw, but this procedure is not desirable and when reserves are exhausted or nearly exhausted, the life of the enterprise is at an end.

Importance of Cost Accounting to Industry

If profit starts where total costs end, it is important that every enterprise maintain a system of cost accounting so sound and complete that its management may know with reasonable accuracy whether it is conducting its affairs profitably or not, without waiting till the end of the year when the books are closed and the annual audit made. Lacking such a system, management is in the position of operating, if not blindly, at least with blurred vision.

If one industry as a whole, or all industry, is to be sound and healthy and, therefore, investment in it is to be reasonably safe and profitable, it is important that the prevailing practices or methods by which managements record or estimate their costs shall be adequate to show the true facts. It is not sufficient that the average practice be good. The general practice must be good.

No one has a quarrel with any person who, by actually reducing costs, is able to reduce prices below his competitors' and operate profitably. However, in the same way that one bad apple has been known to destroy the contents of a barrel, a few offerers of unprofitable prices can keep a substantial portion or the whole of an industry from securing prices which furnish a reasonable return on investment.

Occasional Selling Below Cost Justified

In given instances or emergency situations there are occasions when informed and able management sells below cost. Examples of this are styles or models which are going out of demand, the need to meet maturing paper—although someone told me I shouldn't mention that—and a decision to meet the competitor's price in the interest of retaining the business of a long-standing customer. None of these things may successfully continue or occur too often. But this is not the type of inadequate price which concerns us in this discussion. Our problem has to do with the price which is profitless without the maker of it knowing that fact. We are concerned with the performance of the person who computes his costs by rule of thumb or who uses a method which is fundamentally faulty.

There are a few industries in which a process of integration of managements over a long period of time has resulted, by process of survival, in the existence of only a few companies. I will give you, briefly, two contrasting pictures. Twenty-two automobile companies, I think, provide for not only all of our needs, but most of the needs of the world for motor cars, but 996 companies provide the domestic needs of our country in hosiery alone. There you have two extremes, one of a highly integrated industry resulting from the process referred to, and the other, if not a disintegrated industry, a non-integrated industry.

In integrated industries one may expect that the business science of cost accounting is well understood and properly applied by all members of the industry. The differences between the performances will

be found in other aspects of management. Most industries in this country, however, are not highly integrated. In some, while integration is taking place at one end, many small units are being started at the other end. In the average industry you must expect to have a wide range in the knowledge and application of sound methods of cost accounting.

It should be evident that an industry which generally enjoys good costing practices is bound to be a healthier and more desirable industry than one where the reverse condition exists. From this it naturally follows that if an industry is maintaining an industry-wide organization whose general function it is to do those things which improve the industry, such organization cannot well avoid a concern in the cost accounting practices prevailing in that industry, nor escape from a responsibility to do those things which will make for sounder performance. Before returning to this point and dealing with the types of efforts which have been or are being indulged in by trade associations in the field of cost accounting, it might be well for us to briefly remind ourselves of the conditions under which industry has developed in this country since the beginning of the present century.

Industrial Development Since the Civil War

During the span of 33 years between the close of the Civil War and the war with Spain, our country was principally engaged in developing the West. Railroads and other means of transportation were being developed; natural resources were uncovered and worked; and cities were being built. Much of this was done with foreign capital which in time was repaid. Concurrent with this development, we were also building industry for the production of the things which we needed. However, much of what we used came from elsewhere and the development of our industries was at a much slower pace than that which followed later. One would have described the country at that time as an agricultural rather than an industrial economy.

Our rapid success in the Spanish-American War awakened us to a realization of our strength, both present and potential. It also widened our interests and energized us. Industry entered a period of rapid expansion. Within the short period of fifteen years we found ourselves the principal source of supply to the Allies of the last World War, as well as to the markets which they had developed the world over and which temporarily they had to neglect to a great extent. We were the beneficiaries of a situation not of our making but, none-

theless, very favorable to the development of our industry. Our plant capacity expanded and the variety of our products as well. Our own entrance into the war did not seriously retard the movement. When the war ended we were the richest nation in the world and its principal creditor. For years to follow, while the combatants rebuilt their cities and industries and healed their wounds, we still enjoyed unusual opportunities in foreign markets and our wealth led to expanding buying power at home. This was the "decade of the dance," from 1920 to 1929 inclusive.

Under the conditions which I have described, it must be apparent that many a management showed profitable operations when intrinsically that management could not well have been described as good management. In the ten years, 1930 through 1939, all management has had to work hard for its results. The good, or those who have known how to improve, have survived, while the badly managed or the undercapitalized have been in distress or have had to cease operations. These last ten years have invited and demanded good management. Wasteful habits have been abandoned or corrected. The pencils with which we figure are sharper and the competition with which we have dealt has been keener. I am satisfied that at this time we are enjoying the best industrial management we have ever had and that the exceptions only go to prove the generalization.

Present-Day Functions of Trade Associations

If private and corporate management has had to change with changing conditions, it is equally true that trade associations have had to see their duties and opportunities in a different light and have been compelled to function much more practically and effectively. It used to be the direct and tangible services, such as credits and collections, that were regarded as most important, but today the most important function of the industry-wide trade association is that of improving the general health of its industry and of giving sound direction to the thinking and the performance of the industry. The executives of the modern trade association watch the business barometers very closely. Through adequate statistical services they know the ebb and flow of shipments, the major activity of the industry and the condition of its stocks or inventory. They are disturbed by bankruptcies and corporate mortalities. Their task is not the fortune of the individual company but rather the condition of the industry as a whole. Under these conditions, it is to be expected that the best of them, and prob-

ably the most of them, are engaged in activities intended to improve the general practice of their industries in the important field of cost accounting.

Problems of Developing Sound Cost Manuals

If one assembled a group of able and experienced cost accountants and sought to learn from them the fundamental principles of sound cost accounting, one would not have any serious difficulty in getting them to agree on the essentials. Armed with these, a capable accountant is able to set up a system in a given company which is adequate to its needs. When a trade association undertakes to improve the practices of its industry, it cannot be as precise in what it develops because its task is to evolve a model procedure which stays within and embraces all the necessary sound principles, yet is flexible enough in character to permit each plant in the industry to apply the procedure to its own operations. Such manual must provide for the recording of all of the expense items that regularly happen or can happen in a plant of that industry. After setting forth the essential governing principles, it must proceed to trace the fashioning and the distribution of the article from the raw material to the point where it enters the hands of the carrier. To make sure that the reader will not misunderstand any of the steps, the manual must include examples, practical in character and applicable to the industry, as well as graphic material such as tables, forms, etc.

The trade association movement started with our modern industry and has expanded with it. In passing, I may say I am going to quote later from a very able paper which was delivered recently by a Special Assistant to the Attorney General, Mr. Frank H. Elmore, Jr., in which he very interestingly traced the simultaneous development of two structures that are supposed by some to be enemies of each other. One is the development of anti-trust legislation during the last fifty years, and the other is the parallel development of the trade association movement. When you stop to think, that is natural. That is what you should have expected. In other words, while the laws on the one hand specified the don'ts, by implication if not otherwise, they also pointed the way to the things one can do. When it comes to doing anything in industry which requires that two or more persons shall agree on a policy or a procedure, there must be created an instrument for consultation and co-operation, namely, the trade association.

Activities in the direction of improving the costing practices of

whole industries were undertaken by many associations soon after the turn of the century. As time has gone on, such activities have multiplied. I will refer to a few of these to illustrate the variety of accomplishments in this field by trade associations.

The Printing Industry

The printing industry has done an outstanding job in the field of cost finding. In 1907 the printers of New York, Philadelphia and Boston created a joint committee to study the subject. Out of this resulted what was known as the Tri-City System. A year later, 1908, the Benjamin Franklin Clubs of America adopted certain forms and recommendations. The following year, in 1909, the Employing Printers of America held the First International Cost Congress at Chicago which was participated in by the Tri-City Club, the Benjamin Franklin Clubs of America, the Master Printers Association, and the United Typothetae of America. This Congress resulted in the formation of the American Printers Cost Commission which was charged with the responsibility of developing a uniform cost system for the printing industry. This task was completed within the following year and steps were taken to introduce it throughout the industry. The most active organization in this effort has been the United Typothetae of America which, through its Department of Accounting, assists in the installation and the maintenance of the systems in individual plants.

The Cotton Textile Institute

In 1925 the Cotton Textile Institute, which serves one of the largest and most important of our industries, conducted a survey which showed that only about 26 per cent of the productive capacity of this largest of all textile industries was controlled by cost accounting methods. This was only fifteen years ago, in the middle of that happy decade. This led the Institute to develop a handbook entitled "An Outline of Basis to be Used for Predetermining Costs for Guidance as to Sales Policies," which was issued in 1928. I confess I give up as to the meaning of the title. I should prefer to describe the contents much more briefly and simply so that the man who runs can understand what is between the covers. Two years later the Institute undertook a long-range program to improve the cost methods of the cotton textile industry. It first tackled the cotton yarn mills and prepared and made available a manual entitled "Method of Predetermining Costs in Cotton Yarn Mills."

On the theory that it is desirable that the general practice of the industry shall be improved, the Institute offered its service to all cotton yarn mills, whether members of the Institute or not. The field men of the Institute were schooled to understand and present the objectives of the cost accounting program. It was their task to induce the mill managements to re-examine their current methods and to improve them in line with the manual. The Institute encouraged the managements to modernize their practice in every way possible. For the benefit of the smaller mills in particular, the Institute maintained a staff of skilled accountants whose services were available at cost on a per diem and travel expense basis.

What did the Cotton Textile Institute accomplish? As I have stated, in 1925 its survey indicated that only 26 per cent of the productive capacity of the industry was using proper methods of costing. In 1932, that is, only seven years later, a re-survey showed that 61 per cent of the productive capacity was properly controlled as to costs. The average performance in the industry today is on a sound basis and the activities of the Institute along the mentioned line may be described now as those of the mopping-up process.

The Laundryowners National Association

Another illustration of an industry-wide effort to improve costing practices is to be found in the activities of the Laundryowners National Association. It has issued many bulletins and reports on the subject. Among these is their "Cost Reduction Suggestions for Laundries," which describes various methods for reducing productive labor costs and providing incentives for stimulating production. In addition, they issue annually what they call their "Operating Cost Percentages," which give the average costs in each major expense group and in each basic expense classification broken down by cities and by districts which recognizes that some of the items of expense vary between localities, as well as by laundry volume. The purpose of this publication is to supply figures which will enable the members to reduce their costs as the result of comparing their own experiences with the average costs shown for the year. In other words, it gives them a warning that there is something wrong somewhere in their expenses, and that a careful analysis and the application of the proper remedy will bring down their costs to a point closer to what we might call average.

International Association of Ice Cream Manufacturers

Still another example is to be found in the activities of the International Association of Ice Cream Manufacturers. This organization has developed a uniform accounting system published in two sets. One is intended for the manufacturer who produces less than 100,000 gallons annually, while the other is for the larger manufacturer. The accounting principles employed in both sets are exactly the same, the only difference being in amount of detail. This association has conducted annual expense comparisons for the last fifteen years and publishes them in a pamphlet entitled "Trends in Ice Cream Costs." This pamphlet includes total and detailed costs expressed both in terms of the unit cost per gallon of production and the percentage cost of total expenses.

The association has developed a cost accounting system which applies to the industry and furnishes quarterly cost comparison data to those members who are using this system. In 1929 the association surveyed the industry for the purpose of ascertaining the extent to which its mentioned services had been fruitful. This survey showed that those manufacturers who had adopted the uniform accounting system had reduced their costs by 11.05 per cent and those not using the system had experienced an increase in costs of 1.06 per cent, a margin of approximately 12 per cent between the two.

A Matter of Education

When any business organization undertakes to induce two or more managements to pursue a given policy on a given matter, it is undertaking a task which may best be described as educational in character. No one has yet succeeded in compelling education. The very nature of the undertaking makes it one of persuasion. To succeed in any educational endeavor the educator must himself have a full grasp of the subject. In addition, he must possess the ability or faculty of conveying his information in a manner which invites acceptance. Finally, he must have the patience of Job and remember that one of the established ways of selling fact or thought is that of repetition. Where these facts have been realized and have been applied by trade associations, satisfactory success has crowned their efforts.

My own experience in efforts of the kind under discussion has been confined to the hosiery industry which I have had the honor and privilege of serving during recent years.

The National Association of Hosiery Manufacturers

In 1929, the National Association of Hosiery Manufacturers made available to hosiery manufacturers the first book ever published in any country presenting a cost method applying to full-fashioned hosiery. Both theory and practice were dealt with and every aspect of the problem covered not only by text but also by sample forms and hypothetical calculations. The industry was ready for such information and the book was widely accepted and applied with much benefit to the industry. In 1933, the Association published a pocket-sized manual entitled "How to Figure Hosiery Costs." This booklet confined itself to essentials and was intended to keep interest in the subject stimulated throughout the industry. In 1934, a much more comprehensive manual was developed with the assistance of one of the leading accounting firms. This manual did not pretend to offer a cost accounting system. It confined itself to presenting an outline of the cost principles that should be recognized by a hosiery mill in estimating the costs of the various styles of hosiery manufactured by it or in the development of its accounting or cost systems. The keystone of the entire plan of cost accounting which was outlined in this manual was the budget principle, in accordance with which all expense is estimated in advance and a uniform "Normal Capacity" is the basis for estimating the production.

That reminds me that some six or seven months ago I had occasion to issue a statement to our industry at the time when the price of raw silk was in the mountain peaks instead of being down in the valley where it belonged. I cautioned our manufacturers to bear in mind the fact that while every management likes to see the wheels grinding all the time, that is merely a hope, and that, in an industry as overcapacitated as ours happens to be, the average actual capacity is something much less than 100 per cent, probably somewhere around 75 per cent, a fact to be borne in mind when costing and pricing.

Somewhat to my surprise—and still to my surprise—I was taken to task in a release from TNEC in Washington for having pointed out such a fact to my industry and was indirectly cautioned to be a good boy and not do it again.

The manual of 1934 contained a simplified procedure for small mills. This simplified procedure, as its name indicates, took into account the fact that, as an expanding industry, there were many small hosiery mills with limited staffs and experience which might be in-

duced to do a sound job of costing if the yardstick furnished to them was simple and feasible, but could not be expected to undertake any more complicated procedure.

I think that both trade associations and members of your profession should bear in mind the importance of furnishing a simple procedure for use by small business organizations in which the owner does the cost accounting and performs most of the executive duties. You can't expect him to follow your path of reasoning and performance, if the mechanism which you place in his hands is over-complicated. But if you give him a simple device, he will at least start to crawl. As he gets stronger he will walk, and some day he will run along with you.

The manual of 1934 is currently accepted as the best guide or reference on costing for hosiery mills. As a means of reminding the members of the industry of the essentials contained in the manual, an interesting educational program was carried out during 1938. The principal executives of all hosiery companies were advised that a series of six letters would be mailed to their companies on the first day of six consecutive months; that these letters would each confine themselves to certain aspects of the problem and, combined, would constitute a complete review of the subject. The managements were requested to advise the Association of the name of the executive or employee to whom these letters should be sent and who had been instructed by the management to study the letters and compare their contents with the current practice of the mill. The letters entered into the field of methods, but always within the principles set forth in the manual. This educational campaign proved exceptionally valuable. The persons to whom the series of letters was addressed were requested to send in any questions which were raised in their minds. The volume of such correspondence was large and the results very practical. I think that this was a very happy method of applying the principle of repetition—bringing back the same old buggy, with a different color on the spokes of the wheels, a little change in the body, but really the same buggy.

Trade Associations and the Anti-Trust Laws

For about fifty years we have had on the Federal statute books so-called Anti-Trust Laws. They are designed to prevent any and all acts which are intended to or have the effect of restraining trade

and competition. With the passage of time the decisions of the Federal Courts on various cases prosecuted under these laws have served to create an interpretation of the laws. The Sherman Act was enacted by a Republican dominated Congress by a vote of 52 to 1 in the Senate, and 242 to 0 in the House.

The purpose of the anti-trust laws is not confined to preventing monopoly in a given field by one or more persons through possession or acquisition of property rights in so-called integrated combinations. It is equally the purpose of the laws to protect the public from artificially created or maintained prices, which, of course, includes uniform prices resulting from so-called loose combinations in which two or more persons agree to suppress or restrict competition in one way or another, or to impose restrictions upon the activities of third persons.

Mr. Elmore, in his recent talk, points out that the philosophy of free trade, free competition and no restraint can be traced back to the beginning of the history of our country. He points out that Thomas Jefferson, in a letter to James Madison, said (speaking about the Constitution which had just been adopted) : "I will tell you what I do not like : first, the omission of the restriction of monopoly provisions." There are some other things he didn't like, but that was the first thing he didn't like.

Then Mr. Elmore quotes from a letter that the distinguished Abraham Lincoln wrote to a friend before he passed away, in which he said : "As a result of the war, corporations have been enthroned, and an era of corruption in high places will follow and the money power of the country will endeavor to prolong its reign by working upon the prejudices of the people until all the wealth is allocated in a few hands, and the republic is destroyed."

When we discuss the activities of trade associations, we are primarily, if not exclusively, concerned with so-called loose combinations, because the element of acquisition of property control does not enter into the picture. The question which arises has to do with the latitudes or limitations which surround agreements between two or more competitors or the interchange of information. Price agreements, as we know, are not permissible. As regards information or statistical services concerning prices, production, costs, stocks on hand, shipments, unfilled orders, etc., Mr. Charles H. Weston, in a recent article entitled "The Application of the Sherman Act to 'Integrated' and 'Loose' Industrial Combinations," stated : "The legality of such interchange seems to depend upon the Court's evaluation of

the effect of the program as a whole. If it appears, from a survey of all the facts of the particular case, that the program seriously curtails, or is likely seriously to curtail, competition, then the program and its component parts are condemned as being in unreasonable restraint of trade. But if the opposite conclusion as to effect upon competition is reached, then the interchange of statistical information is a permissible activity."

Activities Held Proper in the Maple Flooring Case

In two well-known cases the courts held that the activities under examination were proper and not in restraint of trade, namely Maple Flooring Manufacturers' Association vs. U.S., and Cement Manufacturers' Protective Association vs. U.S. In the first of these cases the association sent its members abstract statistical summaries covering a variety of information, including computation of the average cost of a given product. The summaries were given wide publicity and were sent to governmental agencies, so that they were available to anyone who had an interest in them. The Court recognized that such information may be the basis for agreement or concerted action to lessen production or to raise prices, but held that in the absence of proof of such agreement or concerted action the activities did not unlawfully restrain commerce. I quote from the majority opinion of the Court as follows:

It is not, we think, open to question that the dissemination of pertinent information concerning any trade or business tends to stabilize that trade or business and to produce uniformity of price and trade practice. *** Knowledge of the supplies of available merchandise tends to prevent overproduction ** *. But the natural effect of the acquisition of wider and more scientific knowledge of business conditions, on the minds of the individuals engaged in commerce, and its consequent effect in stabilizing production and price, can hardly be deemed a restraint of commerce or if so it cannot, we think, be said to be an unreasonable restraint, or in any respect unlawful. *** Restraint upon free competition begins when improper use is made of that information through any concerted action which operates to restrain the freedom of action of those who buy and sell. *** We do not conceive that the members of trade associations become such conspirators merely because they gather and disseminate information, such as is here complained of, bearing on the business in which they are engaged and make use of it in the management and control of their individual businesses * * *. We decide only that trade associations or combinations of persons and corporations which openly and fairly gather and disseminate information as to the cost of their product, the volume of production, the actual price which the product has brought in past transactions, stocks of merchandise

on hand, approximate cost of transportation from the principal point of shipment to the points of consumption, as did these defendants, and who, as they did, meet and discuss such information and statistics without, however, reaching or attempting to reach any agreement or any concerted action with respect to prices or production or restraining competition, do not thereby engage in unlawful restraint of commerce.

I might digress to say that, of course, in this and one or two other decisions of similar nature, there was established the so-called "Rule of Reason," especially well presented by Chief Justice White in a case in 1911, United States vs. Standard Oil. I may say that some decisions and some consent decrees of current vintage raise some doubt in the minds of us today as to whether there is not a tendency to abandon the rule of reason. I hope that the rule of reason will survive.

I would like to point out that the term "unreasonable," used in connection with the anti-trust laws is a qualifying adjective that applies to the noun "restraint," and does not apply to the noun "prices." It is the restraint which must not be unreasonable. The law does not recognize that you can agree on a price and then defend it by saying, "Our price is reasonable." The law says that if there is any degree of restraint, the burden of proof is on the respondent to show that the restraint is not of a degree which has the effect of curtailing or doing away with free competition between two or more competitors.

The majority opinion in the Maple Flooring case has been the principal guide, I think, of the trade associations on the subject to date. I shall say a word or two later on some of the more recent actions in the form of consent decrees, particularly the Container case which, I think, serves a very useful purpose in defining the margins of the highway, and placing the green and the red lights where they belong, so that anyone who wants to know and has eyes to see, can chart his course and avoid the penalties for going through red lights.

Other Cases Clarifying Anti-Trust Laws

There have been more cases in which the decisions of the Court have found that the practice indulged in by the association was in restraint of trade and, therefore, unlawful. The following cases are in this class:

U.S. vs. Sugar Institute, Inc.

U.S. vs. Southern Pine Association (Consent Decree)

U.S. vs. National Container Association et al. (Consent Decree)

In the Sugar Institute case the statistics furnished gave the published prices. It was understood that the members would adhere to their published prices and not change them without giving 24 hours' notice. Such notice was a warning notice to competitors, and it had the net effect of more or less freezing prices in a uniform pattern within the industry. The case resulted in a voluntary dissolution of the Sugar Institute.

The case of United States vs. Southern Pine Association is of very recent vintage. The Government questioned the use to which the standards activities of the association were being put. Everybody believes in standardizing as much as it is feasible to do so, but in this case the Department of Justice evidently came to the conclusion that the standardization activities, whether so intended or not, had the effect of standardizing prices, and not just the products alone.

The National Container Case

The latest case is that of the United States vs. National Container Association, et al. This case was disposed of by a consent decree. This decree, while citing a number of things which may not be done, also points the way to many other activities which may be carried on by trade associations. The decree stresses the fact that it is unlawful for two or more persons to agree to limit their respective productions to predetermined quotas, and it goes on to provide, among other things, one which will be of special interest to you gentlemen, namely, that one may not use "an estimating manual, or any other handbook or device, for the purpose of fixing or maintaining—prices," and one may not use "predetermined prices for materials, manufacturing operations, or delivery" in estimating or pricing an article or in "analysing production, price, sales, order, shipment, or delivery data—for the purpose of fixing or maintaining the prices—of two or more manufacturers."

Now you may ask, "What may one do?" Well, you may gather, audit, and disseminate "information as to the cost of manufacture, the volume of production and shipment, the actual price which the product has brought in past transactions, stocks of merchandise and materials on hand, approximate cost of transportation, and any other facts pertaining to the condition or operation of the industry," and you may meet to discuss such information and statistics "without, however, reaching or attempting to reach any agreement or any con-

certed action with respect to prices or production" of the article. One may do much that is helpful to any industry within the limits of the process just referred to by me, and one may promote "the application of uniform cost accounting to the manufacturing, estimating, and sales policies and practices" of the manufacturers of the article.

Furthermore, one may compile, publish and circulate "in the form of loose-leaf industry manual, handbook, or otherwise, recommended formulas, methods, systems, or procedures, and illustrations thereof, for the computation of selling prices . . . , without, however, in any such industry manual or handbook, specifying or recommending the selling price to be charged . . . , the price to be charged for freight or any manufacturing operation or material used in the manufacture . . . , or rate of profit to be included by any manufacturer in the selling price. . . ."

One thing, of course, which we must bear in mind whenever we consider any court decision is that the application of the law in the case is always governed by the particular facts of that case, and that previous decisions are more or less cautioning sign posts that give us some concept of the direction in which we may go.

In these cases the practices under consideration were not illegal *per se*, but because it was either found that the intent was to restrain commerce or the effect was of this character. They go to illustrate that the Courts assume the attitude that while the collection and dissemination of trade statistics are in themselves permissible and may be a useful adjunct of fair commerce, a combination to gather and supply information as a part of a plan to impose unwarrantable restrictions, as, for example, to curtail production and raise prices, has been condemned.

It will be seen from the quotation which I made from the opinion in the Maple Flooring case that the Courts do not disregard the fact that proper interchange of information within an industry or business tends to stabilize that business. Those who represent the public interest should give increasing consideration to this fact because most industries are not highly integrated and competition within many of them has reached a degree which is bringing about widespread distress not only to management but equally to labor. Labor can only be paid satisfactory wages when the business has satisfactory returns and it can only be employed when the business is able to operate. It is to the interests of the buyer and consumer, as well as the interest of the supplier, that the source of supply shall be healthy and in a position to supply the demand made upon it.

Need for Industry-Wide Planning and Rehabilitation

To me, one of the most important problems that faces American industry today, and will face it for many years to come, has to do with the need for industry-wide planning and rehabilitation. Take, for example, those who have the responsibility of heading an industry and directing its trends. What may they lawfully do, even under reasonable government supervision? Take an industry that is over-capacitated, whose health is bad, in which employment is insecure, and about which capital is timid. What may the leaders of such an industry do, with the assistance of law and government, to rehabilitate the industry and restore it to a reasonably healthy condition, without, of course, doing it at the price of destroying incentive or free competition?

There are industries that I know of in which, through a series of succeeding circumstances, too high a percentage of equipment is obsolete and in which, at the same time, too many of the managements are on the verge of bankruptcy, short of working capital and short of lines of credit. Obsolete equipment is distress equipment in more ways than one. Certainly it is distress equipment when it is thrown on the market at a song and returns into competition with equipment in which substantial sums of money are invested, the product of both being substantially identical and the two meeting in the same market.

In situations of the kind described, the suggestion is sometimes made that there be set up a pool or a corporation of some kind through which obsolete equipment may be acquired and put out of use. It would take legislative action to permit such an operation. I am not unmindful of the fact that there is a limit to the value which would result from any such operation, because even if one were permitted to acquire and dispose of obsolete equipment, I do not know how one would prevent the entrance of new equipment, of higher speeds and higher production capacities, from entering in unlimited quantity and re-creating the overcapacity.

The Elmore paper to which I have already referred presents some facts with reference to the growth of the personnel used by the government in the enforcement of the anti-trust laws. In 1904, in the days of the Big Stick operator, five attorneys in the Department of Justice were assigned to work dealing with the enforcement of the anti-trust laws. In 1918, in the days of the last war President, eighteen attorneys in the Department were devoting their time to this ques-

tion. In 1933, fifteen years later, there were still only eighteen attorneys. In 1938, when the Department of Justice decided to give more attention to this problem, there were ninety-seven attorneys; last year, 140; and this year, 175. I can never truthfully fight or argue with a man who, having sworn to enforce a law, proceeds to do exactly that thing in an energetic and able manner. My quarrel and yours, I am sure, if we had any quarrel, must be with the law and not with the energetic administrator of the law. As a matter of fact, assuming for argument's sake that the law is not desirable in one way or another, how can those who would like to see it amended, attain their objective more readily than by having it enforced to the hilt, so that if it does have any creaking in the wheels, if the grease cups do need filling somewhere, that fault or that deficiency will become apparent and will invite correction?

In conclusion, the part which trade associations can play in improving cost accounting practices has long been recognized. At different times surveys have been made covering such activities by trade associations. One of the best of these was a study which was completed in 1933 by the Policyholders Service Bureau of the Metropolitan Life Insurance Company. Other such studies have been made by the Chamber of Commerce of the United States and by the American Trade Association Executives. I have drawn upon these sources of information in preparing my remarks and I desire to record my indebtedness to them.

I want to thank you gentlemen for the very patient manner in which you have listened to my contribution.

CHAIRMAN DOWNEY: I am sure we are all very much indebted to Mr. Constantine for this very fine presentation.

Before we enter into a few moments of discussion, on behalf of the Association I wish to publicly thank Mr. Constantine for his co-operation in this program. We have about ten minutes, in which time you may ask Mr. Constantine any questions you wish.

DAVID HIMMELBLAU (*Head, Accounting Department, Northwestern University, Chicago, Ill.*): I have a rather detailed question I want to ask Mr. Constantine. To what extent do you believe it should be legal for trade associations either to maintain their own auditing staffs, or to retain independent auditors to check centralized reports received from members of the association, to determine the degree of

adherence to agreed policies? Let us say they have agreed to follow certain costing procedures.

MR. CONSTANTINE: I am not a lawyer, as you know, but I would say that if the fulfillment of their agreement would not have the effect of bringing about substantial agreement on price by the device of agreement or calculation, then certainly the answer to your question should be that there ought not to be any legal restraint upon a checking up of reports by the association staff or by a staff engaged by the association for that purpose.

CHARLES W. TUCKER (*Controller, H. P. Hood & Sons., Inc., Boston, Mass.*): For the benefit of those who are in industries which have not as yet developed active association co-operation to foster sound cost accounting, will Mr. Constantine be kind enough to outline briefly the kind of approach which would facilitate the adoption of such a program?

MR. CONSTANTINE: I would say that you have at least two alternatives available. One procedure, I think, would be to promote wide study and use by the industry of the best available handbook on the subject of cost accounting. This procedure would be somewhat fundamental in character. Another and better procedure would be to select an able cost accounting firm which has a number of accounts within the industry and engage its services to develop a manual whose principles and procedure relate directly to that particular industry. Or, one could arrange for two or more such firms to pool their experience and their knowledge, and jointly develop a manual, although the latter suggestion may prove rather difficult to apply.

In the hosiery industry we proceeded by picking out a firm which had many branch offices, more branch offices than any other firm within the thirty-two states where our industry is located. That made it possible for them to utilize their field men or local staff men in each area to canvass the mills within their several areas and assemble information showing what the current practice was. After they had completed such study and prepared a tentative draft of a manual, we arranged four area conferences to be attended by controllers, cost accountants, treasurers, and other such executives of the hosiery mills within these areas. The special staff from the accounting firm met with these four groups and spent in each case one or more days in

exchanging ideas and finding out their practical objections or suggestions. By this process, the manual took practical form almost overnight. Then we set up a temporary committee of manufacturers, carefully chosen from among practical men who know their business thoroughly, whose function it was to examine the proposed manual and edit it in conjunction with the special staff of the accounting firm.

CHAIRMAN DOWNIE: Gentlemen, I am afraid our time is up. It is exactly twelve o'clock. I know you have a number of questions you would like to ask but, unfortunately, we won't be able to go into them at this session. Perhaps you can hold your questions and at the afternoon session we might be able to find the answer to them. The meeting is adjourned.

. . . The meeting adjourned at twelve-five o'clock . . .

SESSION VI
CO-OPERATIVE INDUSTRY EFFORT

THURSDAY AFTERNOON, JUNE 27, 1940
LAWRENCE DOWNIE, *Chairman*

ROSCOE T. STEFFEN is a Professor of Law at the Yale Law School, currently on leave of absence to act as Special Assistant to the Attorney General. He is now connected with the Anti-Trust Division of the Department of Justice in charge of the St. Louis regional office. Professor Steffen received his undergraduate education at the College of Idaho and his legal training at Yale University. From 1922 to 1925, he was associated with the legal firm of Shearman & Sterling in New York City, returning to Yale in 1925 to become a member of the law faculty. Professor Steffen is a member of the American Bar Association and the National Lawyers Guild. He is the author of "Cases on Agency" and numerous articles on legal subjects.

MERVYN B. WALSH began his business career in the engineering department of Western Electric Company, after which he entered public accounting. While engaged in the public practice of accountancy, he did considerable cost work. He left the public accounting field to become associated with Thomas A. Edison, Inc. After five years of private work, he again entered the public accounting field and organized a firm of Certified Public Accountants now known as Walsh & Company, of Detroit, Michigan. In 1922, he founded Walsh Institute of Accountancy, a professional school specializing in teaching accountancy and business administration. Mr. Walsh was President of the Detroit Chapter of the N. A. C. A. for the year 1924-25. He was a National Director of the N. A. C. A. from 1931 to 1938. During the year 1925-26 he was President of the Michigan Association of Certified Public Accountants. He is a member of the American Institute of Accountants, the American Accounting Association and the Michigan Association of Certified Public Accountants.

CO-OPERATIVE INDUSTRY EFFORT

CHAIRMAN DOWNEY: For the benefit of those who may not have been here this morning I wish to explain that today's sessions were organized to conform to the wishes of a large number of our membership who specifically requested a day's session devoted to a discussion of co-operation in industry.

This morning we had the privilege of listening to Mr. Earl Constantine, who described what trade associations are doing and planning to do to create more co-operation in industry, with the objective of lowered costs to the corporations and eventually to the consumers.

This afternoon we are going to hear the government's side of this question. We have a well qualified representative of the Department of Justice who will explain to us what we can do, and some of the things we cannot do. He will then be followed by a qualified representative of the accounting profession who will show us some of the things which should be done among companies within an industry, with the objective of reducing costs through that type of co-operation.

The first speaker of this afternoon's session is Mr. Roscoe T. Steffen, who will cover the subject from the angle of "What Is Possible under Present Law and Government Attitude?"

WHAT IS POSSIBLE UNDER PRESENT LAW AND GOVERNMENT ATTITUDE?

ROSCOE T. STEFFEN

Special Assistant to the Attorney General,
Anti-Trust Division, St. Louis, Mo.

I AM VERY pleased to be with you this afternoon and to be pinch-hitting in a way for Dr. Corwin Edwards, who was originally assigned, I think, to speak to you on the government's attitude. I am sorry he could not be here, because he has an intimate acquaintance with economic matters and perhaps can talk to cost accountants more nearly in the language that cost accountants are familiar with than I can.

The topic I am to discuss, I understand, follows the subject that was covered this morning by Mr. Constantine. It has to do broadly with what is possible by way of cost accounting and exchange of information today under the law, particularly with regard to the present attitude of the Department of Justice.

An Example from the Building Industry

Before taking up my subject, perhaps I should explain, by way of introduction, one type of work the Department has been engaged in recently. Today I was over at East St. Louis in the midst of grand jury proceedings investigating building conspiracies. In fact the Department, as many of you know, has been investigating the building industry throughout the United States. East St. Louis, just across the river here, gives a beautiful example, as I see it, of what monopoly and various trade restraints can do to a community. All the information we have been able to gather indicates that building costs over there are from 20 to 25 per cent higher than on this side of the river, and for no apparent reason. Transportation costs are practically the same. It is just as feasible to buy in the necessary quantities there as here. But there we find every indication of a labor and materials monopoly. One result is that it has become virtually impossible for people in East St. Louis to get pre-fabricated materials, to get pre-fitted window and door frames, or made-up kitchen cabinets. In many cases these are better and cheaper than the kinds that have to be planed and fitted on the job. A great number of other materials are excluded in the same way, although this is supposed to be a free country. The result is all too clear, as far as building is concerned, for it amounts to practical stagnation; there is no building, and there are only a few people working. Nothing happens.

We have gone over to see if we can possibly work out some means, under the Sherman Act and the Anti-Racketeering Act, of opening the field to free trade and free intercourse. The Department has been doing the same sort of thing all over the country. It has been difficult to get results, but the need for it, I think you will appreciate, is overwhelming.

The Attitude and Activities of the Present Administration

I say all this partly to show what the attitude of the present administration is in regard to the Sherman Law. The attitude, I think

I can say with all fairness, is to play no favorites. On the one hand, if labor has combined with business to increase prices and to put restraints on trade, it is just as guilty before the law as anyone else. On the other hand, there have been and still are many prosecutions of the larger business combinations. You are quite familiar with many of these, for example, the Steel Trust prosecution, the Sugar Institute and the Maple Flooring cases, and a whole series of others that have, over the last fifty years, been brought to the attention of the Department. So I can say we play no favorites.

You have, no doubt, also noticed that the Department has commenced a prosecution of the American Medical Association. When the Association doctors in the District of Columbia combined with the local hospitals for the purpose of forcing people to buy their medical services on a fee basis, and in no other way, they went too far. No single group has the right to so conspire against other doctors who perhaps wish to practice on a prepayment plan. Nor may the business of the hospitals be controlled for any such purpose, however innocently the plan may be drawn up as a mere code of ethics.

Again, the Department has recently initiated certain prosecutions in connection with patent matters. We have allowed to grow up in this country, I think, a large number of conspiracies that are very far reaching, but are sheltered under the idea that a patent on one portion of a process or business permits the holder to thrust that patent monopoly out into all reaches of the sale and distribution of the product involved. The patent holder is thereby given a monopoly that Congress and the Constitution of the United States certainly never intended. The Constitution simply says that the Congress may adopt patent legislation in the interest of industry, and Congress has not said that a patent, once given, constitutes a monopoly over everything having any remote connection with the matter at hand.

Those are some of the matters that the present Department is investigating, and I think I may say it is a vigorous prosecution. But it is also a fair prosecution.

Objective of the Sherman Act

As to what is possible under the Act with respect to trade associations, I will have to ask you to bear with me if I go slowly. It is not possible to say clearly and in a few sentences just what the limits of the anti-trust legislation are. The Supreme Court itself has said that that is something it cannot do; it has often taken the position

that it can do no more than to decide matters as they come up. That, from the standpoint of a businessman who wants to chart a course, is not very satisfactory. Nevertheless, no other way has been found, in view of the infinite variety of the practices and combinations in business.

To begin with, however, let me describe very briefly what the Sherman Act was enacted to accomplish. It will be fifty years old next Tuesday, and I think the Anti-Trust Division, at least, of the Department of Justice, plans a celebration. I hope you will join with us.

The Sherman Act, as I say, was adopted in 1890. It states a very simple, short proposition. It says that any contract, any combination, whether in the nature of a trust or otherwise, or any conspiracy, in restraint of trade or commerce among the several states, is unlawful. That is about all there is to the Act. Violation of the statute constitutes a misdemeanor. The penalty is one year in jail, a \$5,000 fine, or both.

Following the Sherman Act, the Congress in 1914 passed the Clayton Act, which extended the scope of the Sherman Act in certain ways, and also clarified and modified it somewhat. In 1935 the Robinson-Patman Act was adopted; it further extended the law in the field covered by the Sherman Act.

To tell you what the exact scope of those three acts may be, as I have stated, would be an impossible task. Therefore, I think the most profitable thing I can do to give you a guide to what the Sherman Act really means, is to go back and look to the beginnings of our law upon restraint of trade. If there is one thing certain, it is that the Sherman Act did not spring full bloom into existence on July 2, 1890.

The debates before Congress indicate that people were very much worried in 1890 about the on-rush of the large business combines, the "trusts" as they called them. There was general agreement that something had to be done in order to protect the public against high prices and monopoly. When Congress came to framing the Act, that is, actually putting it into words, it made everything depend on the phrase, "in restraint of trade." Those words, "in restraint of trade," had a historical background of 200 or 300 years. So what Congress was attempting to do, and what Senator Hoar said they were attempting to do, was to fit the Sherman Act into the slowly built-up framework of case law which had furnished the guide for business in England (and in this country) during the preceding several hundred years.

Let's go back, therefore, to these beginnings. I think it is a shock to anybody to go back to 1552, or some such time, in England and to examine the economic pattern of that day. Business was not developed then to the extent that it is now. The idea that everyone should buy and sell at a profit, and that business and profit making should be the serious, not to say exclusive, matter that we have since made it, didn't prevail.

In 1552, there was a very different social viewpoint. People at that time were interested, first, in getting enough food, clothing, and shelter to keep them alive. The matter of existence came first and foremost, and in order to make sure that food going to market would get to market, and that people would get the other necessities of life, they had several statutes. Forestalling—a good word—for example, was a misdemeanor. A farmer with a load of grain for market would be met outside and discouraged from coming into town, whether by workmen, ruffians or agents of the local merchants. That was called forestalling. The essential thing to do was to make sure that no activities of that sort should be allowed to discourage the shipment of grain into town.

The next statute was directed at regrating. A man who would go to the edge of town and buy up a load of grain, with the object of bringing it into town, and selling it at a profit was guilty of regrating. That also was a misdemeanor. "Business," as we know it, had to give way before the basic requirements of the population for necessities.

There was a further statute against engrossing. There, the purpose was to prevent anyone from buying all the goods in a particular market or neighborhood. The danger then, as today, was that in such case extortionate profits would be charged. That too was made a misdemeanor. Those statutes lasted for nearly 200 years, from 1552 on down to late in George III's reign.

Those statutes against forestalling, regrating and engrossing, as I say, were designed primarily to make sure that the people had necessary food, drink, shelter and clothing. The Statute of Monopolies, adopted in 1623, was designed first to make sure that no one group should monopolize any particular business or any particular trade or occupation to the exclusion of all others. From our earliest colonial days this has been one of our most prized heritages, the right of any person to pursue whatever trade or business he might choose, free from either government or business monopoly. But the second pur-

pose of the Statute of Monopolies was the same as the earlier engrossing statutes, to make sure that no group would be able to charge such prices as it saw fit, or to unfairly limit the supply or quality of goods for market. Otherwise, the public welfare would become lost in the shuffle.

The forestalling statutes were repealed only because, with an expanding ocean commerce and the new world opening up, they had served their purpose and were simply swept aside by the on-rush of business. But the courts started, through those same years and for the same reasons, the matter of developing a common law to protect "trade" from the more harmful combinations and conspiracies in restraint. Any group of people who conspired—this is court legislation—to restrain trade or commerce unreasonably might be enjoined on the ground that their action in fixing prices or restricting output was unlawful and against public policy; or, in the case of labor conspiracies, particularly where a secondary boycott was employed, on the ground that the disruption of trade was far too costly to the public. In all such cases the conspirators might also be sued for damages on the ground that they had injured the person against whom the conspiracy had been planned.

Sherman Act to Insure Industrial Democracy

That is a very brief sketch, but it indicates that the Sherman Act was developed against a broad background of American and English business life. The Act is far from being just some brainstorm that Congress had in 1890, and which we have been suffering under ever since. It is a statute which is designed, more than any other, to provide for industrial democracy in the United States. It is not designed to break up big combinations in order to make little ones of them. It is not designed to harass business. It is designed to make sure that no single element in the community will get an unfair hold on any of the economic processes and use it for purposes of building up prices unduly or driving out other businesses which ought to have an opportunity to present their wares to the public and to sell them or not sell them as the public decides. In the words of Chief Justice Hughes, the Sherman Act can be regarded as "a charter of liberties" in the economic world.

Perhaps this is a lot of background for what I have to say. I think, though, it is essential if one is to have any appreciation of the

various decisions which have been handed down in the last several years. Otherwise they may seem to be somewhat pointless and without guide. The courts talk about prices and competition, about this set of facts or that, and the theme which runs through the whole series of decisions tends to become obscured. But I think if you will take what I have just said as a basis, that is, that the Sherman Act is designed to do two principal things: first, to make sure, in so far as possible, that we have a live and not a stagnant economy, one that will best insure food, clothing, and products of all sorts to people; and which, second, will provide an opportunity for any businessman, big or little, to have a fair chance to survive as a businessman, then you have the key to the statute and to the purposes of this administration in enforcing it.

Of course the statute does not apply to all business. It was found at once that competition among railroads differed from the case of business generally, and it was necessary to set up the Interstate Commerce Commission. It was found also that in the case of the city utilities it was necessary, because of their natural monopoly, to set up regulatory devices to take care of the possibility that they would be overcharging. More recently, in bituminous coal, there has been set up in the national picture a regulatory body to put that industry on its feet.

This way of handling these situations, you see, conflicts with the idea of a free, competitive, self-regulating society, which is the basis of the Sherman Act. But, as I say, there has been no other apparent way of dealing with them.

Alternative Courses

But, speaking of general business, unless the plan of the Sherman Act can be made to work, there are only two obvious courses open: (1) Government ownership, and most people are opposed to that, if there is any possibility of avoiding it; (2) Fascist control, a much more dangerous possibility, and more probable. There you have, not exactly government ownership, but certainly government control and dictation.

I was speaking just before I came up here of the fact that Mr. Ford has just been reported to have refused to manufacture 3,000, or any other number of airplane engines for foreign war purposes. That, of course, is Mr. Ford's privilege, but probably he is manufacturing airplanes, or whatever else they want, in his plants in Germany. In

states of that character, where they take over your economy and run it as they see fit, you have no need for a Sherman Act. You have nothing that compares with an industrial or political democracy; you have complete enslavement. That is the alternative.

I am saying this to you for the purpose of emphasizing that the Sherman Act, and the whole prior development of law which resulted in the Sherman Act, is not something that has been imposed on society; it is, rather, something which businessmen, the public generally, and our politicians have thought would succeed. It has been in force, as I say, for fifty years. It is not perfect by any means, but it is what we have to work with, and if we cherish this idea of an industrial democracy, as of a political democracy, it is what men in industry and men in the cost accounting field will have to make succeed. Your other alternatives, as I say, are very serious matters indeed.

I want to mention at this point, by way of contrast, one other experiment which we have tried—the NRA. Probably the NRA has caused as much trouble in the full enforcement of the Sherman Act as anything else. The philosophy back of the NRA was the exact opposite of that upon which the Sherman Act is based. The one is designed to promote a free market, the other to give complete control to the industry. Small groups were set up which adopted so-called codes, regulating all sorts of matters. They adopted fixed cost accounting practices, or tried to. In many cases they adopted fixed prices, and everyone was all prepared "to go to town" on a strict monopoly basis, when the United States Supreme Court held the whole thing unconstitutional. I have always been interested to know why the decision of the Supreme Court was so much applauded by the very people in industry who were most interested in upsetting the Sherman Act and the enforcement of the Sherman Act, because the NRA was God's gift to the man who wanted a monopoly. It was held unconstitutional, however, by the United States Supreme Court even before that court had "lost its integrity," as some people would have it now.

Two Tests Applicable to Trade Association Activities

Taking up the matter of what a trade association may do by way of exchanging information concerning costs and other matters of importance to an industry, I want to ask that you look at the problem against the background of which I have just spoken. First, ask of

any cost device or any exchange of information that is proposed, whether it would contribute to an improvement, not of business conditions, as you say, but to an improvement of the general opportunity of business to survive, both small business as well as large, and to the extent to which it would contribute to their opportunity to compete. Secondly, what would the result be in terms of furnishing supplies, food, clothing, and what-not, to the public in quantities and prices which we could say would be reasonable under all circumstances.

If those are the tests, how have they been applied in the trade association cases? Certainly the Supreme Court has not adopted them in terms, as I have described them, in the five principal cases it has had before it. In the first two cases, the American Linseed Oil Company case and the American Column Company case, back in 1921-1923, it held, as you probably recall, that an exchange of information on the part of the members of a trade association which had a tendency to stabilize prices might, under the circumstances of those cases, be held contrary to the Sherman Act and therefore a violation of statute and an indictable offense. In the third and fourth cases, the Maple Flooring Association case and the Cement case, it reached an opposite result, the Court there holding that the information that was being circulated by those trade associations would not be in violation of the Sherman Act. In the fifth case, the Sugar Institute case, with which I think you are also very familiar, the Court held that it was all right to collect the information there involved, but that the association should disclose its information in a much more public way than it had been doing, with the idea that if the information was so disclosed there would be a greater opportunity on the part of all elements in the industry to chart their course accordingly, thus bringing about an informed, as opposed to a blind, competition on the part of all elements in the group.

Judicial Opinions

The result reached by the Court in the Sugar Institute case, I think you will agree, squares fully with the Sherman Act as I have discussed it. But the best statement of the point is that made by Mr. Justice Stone himself in the Maple Flooring Association case. In passing let me say that Mr. Justice Stone is one of our great judges. He is the one judge who dissented in the recent Jehovah's Witness case, which I think indicates he is distinctly liberal.

He said: "It is not, we think, open to question that the dissemina-

tion of pertinent information concerning any trade or business tends to stabilize that trade or business and to produce uniformity of price and trade practice. Exchange of price quotations of market commodities tends to produce uniformity of prices in the markets of the world. Knowledge of the supplies of available merchandise tends to prevent overproduction and avoid the economic disturbances produced by business crises resulting from overproduction, but the natural effect of the acquisition of wider and more scientific knowledge of business conditions in the minds of the individuals engaged in commerce, and its consequent effect in stabilizing production and price, can hardly be deemed in restraint of commerce or, if so, cannot, we think, be said to be an unreasonable restraint or in any respect unlawful."

That opinion—I have only read one paragraph of it—is the most complete statement we have from the court of what is possible on the part of a trade association in disseminating information concerning costs, concerning quantities, inventories, sales, freight, and all the other matters that have to do with conducting a business. It says: If the purpose is simply to provide information necessary to business, that is, to furnish an intelligent basis on which to conduct business, there is no objection whatever under the statute. There would be no objection on the basis which I have discussed with you, but, on the other hand, if the purpose is something quite different; if the purpose is to use this information to fit a quota of production so that prices may be controlled; if the purpose is definitely to fix prices; if the purpose is to allocate certain territories in which different elements may be sold, for the purpose of maintaining a limited monopoly in those separate fields, then the statute provides that that is an unreasonable restraint upon trade and a violation of the Sherman Act.

The basic assumption is that by means of free competition, free intercourse between the states, and the maintenance of a free market, we will provide the greatest assurance that the people will be fed and clothed at a fair price, and that every person in the country will have an opportunity to go about his business without running into the difficulties of a too sharp competition on the part of predatory interests.

Argument for Stricter Enforcement

The dissenting opinion of Mr. Justice McReynolds shows that there is strong feeling for an even stricter enforcement of the law. He says: "The United States vs. American Linseed Oil Company

case states a doctrine which I think should be rigorously applied. Highest protestations and smug preambles but intensify distrust when men are found busy with schemes to enrich themselves through selfish ventures. The government ought not be required to awake to the final destruction of competitive conditions before demanding relief through the courts. The statute presents means for prevention. Artful suggestions should not hinder their application."

What Mr. Justice McReynolds had in mind is that some of these matters, for example, the rules of "ethics" which are adopted on the part of associations, are not entirely what they purport to be. Various statements, such as—"This is done to stabilize the industry; this for purposes of getting rid of cut-throat competition; this to put a floor under prices"—which have, I recognize, a measure of truth in them, are, none the less, the sayings under which it is possible to conceal a scheme for conspiring to fix prices or to maintain a monopoly. They are the phrases, used quite generally, for purposes of excusing a violation of the Sherman Act.

Enforcement through Knowledge of and Belief in Law

Where the truth lies in any given case is very difficult to say. I think it comes down pretty nearly to a question of searching your own conscience. Cost accounting, like the practice of law, should be and is a profession; so may business be a profession. The ideals and demands put upon the practice of business, law and accounting, if they are to be professions, are greater than those obtaining in the market place.

I am reminded of an illustration which occurred during college. We had a very good basketball player who held to the theory that the rules of basketball printed in the rule book were one thing, but that actually, in playing basketball, the rules were that you could do anything you could get away with. Those things the referee did not see were not violations of the basketball rules.

I want to say, on the contrary, with all the seriousness I can command that such an attitude will certainly not work for success in this field, whatever may be said of it as a standard of professional conduct. You can not expect the few men who are employed in the Anti-Trust Division, even though there are more now than fifty years ago, to police the whole country. They do not want to attempt the job. The law can be fully effective only if the men in your pro-

fession, the businessmen of the country, are convinced that we really want free competition; that we really want to have a live business society. And here we must not forget that in the last one hundred years we have reaped great successes, in some large measure, at least, because of the fact that every citizen of the United States has been able to go about his business, and, so far as possible, to carry on his trade as he saw fit. It takes an informed citizenry, convinced that it is right, to make such a society work. It can not be crammed down your throats, and neither does the Department of Justice nor anyone in it have any desire to do so.

Present-Day Problems

Today, there are some peculiar problems added to what we have had heretofore. As you know, there are many possibilities of profiteering due to war conditions. The Department has received a number of complaints concerning increases in prices of one or another commodity which may become a necessity of war. If the war continues long, there is great danger that such prices will get out of hand, unless the Department or someone is able to check the rises which have no very satisfactory basis and no very sound reason for being. That, I think, is one of the things that the Department must do. Your assistance will be valued.

As I say, Fascism, to my mind, is one of the most serious things we can look forward to as a possibility. If I may be a prophet for a moment, when this war is settled there will be certain large combinations of territory in the control of Mussolini, Hitler and Stalin. We know now that their idea is to conduct business for the state and to ignore the individual as being someone who can himself conduct business. That being true, this country is certainly going to have to resort to the same devices as a bare matter of survival. What we will have, therefore, is an adoption—for foreign trade, at least—of the same cartel system which the Germans have used to such effect. It is going to be necessary for us to compete with them in the South American market and in other markets, and there is going to be great danger that that governmental control, whether it be by Republicans or Democrats, will occupy the domestic scene as well. It is therefore particularly important that we keep in mind what the heritage of this country is as respects freedom of business, and that we keep in mind our personal responsibilities as businessmen and cost ac-

countants and lawyers to make sure that we do not give over our heritage of a free economy.

I wish to say, in conclusion, in the same words Mr. Constantine used this morning, that "one bad apple can spoil the barrel."

CHAIRMAN DOWNIE: We will have our question period after we hear our next speaker.

The next speaker hardly needs any introduction. He has spoken before most of you people at some time or other. I am referring to Mr. Mervyn B. Walsh, of Detroit, who will cover the subject, "Co-operation in Industry for Cost Control."

CO-OPERATION IN INDUSTRY FOR COST CONTROL

MERVYN B. WALSH

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YOU HAVE heard from Messrs. Constantine and Steffen that it is possible for industry to co-operate without violation of any Federal statutes. From the information given today, it is evident that industry may get together for almost any purpose with the single exception of price control. Co-operation of industry is not new. Various trade associations undertake to further the cause of industry in many ways. Other associations comparable to the National Association of Manufacturers and the National Association of Cost Accountants undertake to act as a mart for information to be bartered. Why, then, should we raise the question of co-operation between industry?

There are still a large number of companies that have for one reason or another elected to paddle their own canoes—to go it alone, so to speak, and not bother about co-operation with competitors. This is particularly true when a breakdown of the companies is considered. While the company, as a unit, may have some form of co-operation with other companies in a similar business, no attempt has been made to permit the chief accounting officer to visit with his neighbors to determine what is being done outside of his own plant.

No one will question that if our friends in Europe were to spend their energy in co-operation, they would all be better off and make

considerably more progress. While they do learn some things from each other from fighting, the toll of life and expense far exceeds any benefits.

Value of Co-operation among Accounting Executives

For many years past, the department stores of the country have found it advantageous to standardize accounting procedures including the classification of accounts. This information has been submitted to a central bureau and turned over to the Harvard School of Business Administration to be summarized and put into proper form for submission to and study of the members. The unanimous opinion of department store accounting executives is that the analyses received each month are the best self-starters that could be purchased. As one executive stated, the monthly report received by him showing what other stores are doing acts as a red flag against excess costs.

Department store executive accountants are not content to study statistical analyses to determine a weakness of their own organization, but they supplement studies of other stores by actual visits to the stores, not only in their own cities, but in other cities as well. Information gained in this way gears up the efficiency of all stores and permits them to definitely control expenses in a business which is subject to many vicissitudes.

Let us consider a few other cases of co-operation. The auditor of a national bank devised a work unit to measure the efficiency of bank employees. The operation of the work unit was discussed at a bankers' convention. A number of bank accounting executives have visited the bank since that convention and have adopted the work unit measurement in their own banks. A number of banks are reaping the benefits of the work of one bank. On the other hand, the auditor who developed the work unit idea told me of his visits to other banks. He was able to secure information and data from other banks to enable him to put into effect many cost reduction policies.

The Wage and Hour Act is comparatively new, but it is beginning to make itself felt in many industries. An accounting executive learned that a competitor in another city had been examined by government agents and a classification agreed upon, segregating supervisors exempt from the Act from workers subject to the Act. By visiting the competitor's plant, this executive gained sufficient information to revise his classification of employees. As he stated, a large contingent liability for additional compensation was eliminated.

The accountant of a drop forging plant visited competitors' plants and reports numerous savings were effected from adoption of competitors' methods. In turn, he was able to make constructive suggestions to others. In one plant where burden was distributed on a percentage basis, he was able to prove that the hammer hour rate was more accurate for estimating, costing and managerial control.

Illustrations of this kind could be given without end to prove the value of co-operation between accounting executives. The illustrations given are sufficient to crystallize the theory that co-operative effort pays dividends. The function of this paper is to emphasize the co-operation of accountants in line with the illustrations given—not general co-operation, but specific co-operation whereby you will learn not only what the other fellow is doing, but why he is doing it. Those of you representing companies already members of trade associations may feel that further co-operation is not warranted. It is hoped the discussion today will stimulate your interest to explore further than you have and you will find that benefits received will have a direct bearing on cost control in your particular plant.

Provisions of National Container Case Summarized

A consent decree enumerating practices permitted and prohibited to trade associations was entered April 23, 1940, in the case of the U. S. vs. National Container Association, et al. Under the terms of this decree, the following practices are prohibited:

1. To limit production.
2. To prorate or share business.
3. To determine volume of business for the purpose of establishing quotas.
4. To collect, compile, or compare data respecting production, sales, orders, shipments, or deliveries for the purpose of determining if manufacturers have adhered to such quotas.
5. To fix or maintain prices.
6. To use an estimating manual for the purpose of fixing or maintaining prices.
7. To use predetermined prices for materials, manufacturing operations or delivery in estimating or pricing for the purpose of fixing or maintaining prices.

The following practices are permitted:

1. To gather, audit and disseminate information as to the cost of manufacture.
2. To promote uniform cost accounting and estimating.
3. To exchange credit information and other accounting information.

COST EDUCATION MEETINGS

To lay a co-operative foundation, general cost education meetings may be held by representatives of a specific industry. The purpose of these meetings would be to consider problems common to all in the industry and to formulate programs to better operate accounting systems of the industry.

From the decisions rendered, it is evident that companies of an industry may not allocate a quota to any particular company or to apportion sales in any manner in order to lessen competition. Obviously, no attempt should be made in co-operative meetings to step over the line of questionable practice.

Normal Capacity for Industry

For years past, both in national conventions and local chapters of this Association, one of the foremost questions for discussion has been the treatment of burden charges for excess capacity. Any time the subject was discussed, interest was aroused and debatable questions were argued but seldom settled.

There is no question but that the best way to solve the question once and for all is the elimination of excess capacity. With a full realization that settlement of excess capacity is not an overnight job, we venture the opinion that the problem can be substantially solved through co-operation of accounting executives of an industry.

The first question to be submitted to the meetings would be the normal capacity for the industry as a whole. The productive capacity of the industry as a whole would quickly reflect whether excess capacity existed in the industry. From these meetings, a normal base could be established and each firm encouraged to work from that base.

Manifestly, the establishment of a normal base for an industry is not an elementary task, related as it is to sales and public consumption. Business cycles play their part and at first blush the problem appears impossible to solve. Normal capacity could, over a period of years, be established and each member of an industry would have sound information for expansion or contraction of plant and equipment. While immediate benefits might not be realized, there is no question but that members of the industry would be able to outline more efficient programs in future years.

Uniform Depreciation Methods

The second question for the cost education meetings to consider would be the establishment of uniform depreciation methods. Depreciation, representing, as it does, such an important item of production costs, is worthy of considerable time. If members of an industry actually compared depreciation methods, it often would be found that no two members use similar methods. The effect of different depreciation methods upon estimating, cost and taxes is apparent to all.

The Internal Revenue Department has assigned engineers to different cities with specific duties of studying depreciation rates of taxpayers in the district. Large additional tax assessments have been made because of disallowance of depreciation charges. In most cases these assessments are arbitrated, with the taxpayer paying part of the assessment. Rates are established for that particular company, while other companies in the same industry will use different rates and methods.

If members of an industry were to pool their experience and knowledge about depreciation, it follows that uniform depreciation methods could be adopted that would have a far-reaching effect. In contesting additional tax assessments, it would be more effective to submit the combined experience of many companies than the experience of one company. It has been a common statement in annual reports to stockholders that adjustments were made to the surplus account to care for excess depreciation charges of previous years. Many of these settlements could have been modified with industry experience rather than individual experience.

While the tax feature furnishes an important reason for combined industry experience of depreciation rates, daily operations furnish a more important reason for co-operation. Wide variances exist in estimates and costs because of different depreciation methods in industry. These variances could largely be leveled out with uniform methods.

Uniform Cost Methods

The third question for consideration is uniform cost methods and reports. Notwithstanding approximately one hundred uniform systems in effect, there are few that carry on to the extent that maximum benefits are derived from their use.

At the 1934 Cleveland Convention of the National Association of Cost Accountants, Verl L. Elliott, commenting on uniform systems, stated: "Bringing about uniform cost accounting by the process of recommendation for most industries will be a very, very slow process. Each company thinks its system is the best and should become the uniform system."

The consensus of the 1934 convention was that formulating uniform systems of accounting was a formidable job and should be undertaken after considerable study and numerous meetings of interested company representatives. From an examination of many of the uniform systems of accounting in use today, I am inclined to agree that any one system that could serve all the members of an industry would be utopian in character.

Therefore, co-operation of accountants of an industry should work to the solution of basic problems in order that, when they get together periodically, they may talk on common ground. It is not considered that from educational meetings any infallible system of accounting will be developed, but rather that good ideas will be summarized and made available for adoption.

A digest of the many articles that have been written on uniform accounting brings out the good and bad features. Suffice it to say that if specific uniform methods are adopted by industries, a long step will be made in the right direction toward clarifying many of the accounting problems that now exist.

Uniform Estimating Methods

The fourth general question to be considered at the cost education meetings is the all-time perplexing problem of estimating. In the same sense that we feel it advisable to adopt uniform accounting procedures, estimating methods on a uniform basis appear imperative.

Estimating has been termed the life blood of a business, a science, a business barometer, and other names. There probably is no part of an accounting system that is more variable when compared with competitors' methods. It is fully realized that estimating methods will vary contingent upon business conditions. Under good conditions, estimates will make full provision not only for all items of direct cost, but for all fixed and variable burden plus a substantial profit. When conditions are not good, estimates will eliminate certain items of fixed burden, reduce percentage of profit and even provide for selling below cost.

Estimating should be hitched to the long-time planning program and approached with the attitude that if full normal capacity of the plant were taken by the specific potential order, all costs would be fully recovered by management. The real basis of competition should be on the basis of operating efficiency. This condition cannot exist when loose methods are used for estimates.

The cost education meeting should emphasize that estimates should be prepared on the same basis that costs are determined and a tie-in of the estimate with the finished cost record should be an elementary matter.

Research has brought to light the fact that the volume factor is frequently disregarded. Small orders are treated on the same basis as large orders, or at least small orders are not penalized in sufficient amount to equalize for the volume produced by large orders. Orders of varying volume manifestly affect production costs. The volume factor seems almost as important in some companies as direct materials, material burden, direct labor, and burden, which by no means are considered on a uniform basis in estimating.

Uniform Budget Procedure

The fifth and final question of the general meetings has to do with uniform budget procedure. There are probably as many different kinds of budgets in use as there are companies using them. Uniformity in budgeting within an industry is much to be desired. Consideration of the questions discussed will aid substantially in ironing out some of the "bugs" of budgeting.

Picture all the companies of an industry budgeting operations with the use of the same principles, having in mind the normal capacity of the industry as compared with normal demand. The use of uniform expense classifications will make budgets comparative and build a foundation for co-operation that may appear fantastic and idealistic.

The determination of normal capacity for an industry, the establishment of uniform depreciation methods, uniform cost methods, uniform estimating methods, and uniform budget procedures are considered as major items to be considered in meetings where a good representation of the companies interested would be present. In general meetings of this character, the subject matter to be considered must, of necessity, be limited. Otherwise, little would be accomplished.

General meetings of this nature must be organized by leaders of an industry and real effort put forth to assemble representative accountants. It follows that some members of the industry must take the initiative in calling these meetings and not wait for the other fellow. At these meetings, the more important subjects will be discussed, making way for more intimate discussions in smaller groups.

Some of the items to be discussed in the smaller groups are suggested for consideration. There probably are numerous other items which would provide the basis for interesting co-operative discussion, but time limits the submission of all items.

SPECIFIC ITEMS FOR CO-OPERATIVE DISCUSSION

Floor Space in Relation to Sales

The chief executive of a well-known industrial company determined some years ago that a definite relationship existed between sales and available floor space. To determine what other companies were doing, he visited a number of plants in the industry and found that most of the plants did not equal his ratio. One or two plants were better. From these he gathered data to assist him in increasing his ratio.

In common with most plants, members of the staff submit plans for expansion (particularly when the plants are a bit busy). With his yardstick of measurement he computes the additional floor space suggested, the investment required, and the possibility of securing additional sales to maintain the established ratio. On a number of occasions he was certain that sales could not be increased in the ratio of additional floor space suggested and refused to authorize the additional capital investment for plant capacity.

Accountants could lend aid to management by determining a ratio of this kind and, in particular, setting up comparative figures of others in the same industry. Manifestly, you could determine if excess plant capacity existed in your plant, or if you were one of the efficient operators. At some time or other you have sat in conference when the question of capital expansion was discussed and it goes without saying that you could speak with authority if you were able to quote your own sales figures in relation to square feet and compare these figures with the figures you secured by co-operation with other members of your industry.

Industrial Relations Policies

The second item for study under the co-operative plan is industrial relations. Small and large companies alike have made revision of industrial relations policies. Each company in working out its program has hit upon something novel in solving these involved problems. Visits to other plants to study methods will probably bring to light one or more constructive suggestions that could readily be adapted to your own problem. Because of the many changes of employee attitude in the past few years, changes effected by security legislation, and the like, industrial relation policies offer a fertile field for co-operation. If time permitted a discussion from the floor this afternoon, I am sure that all present would learn of one or more innovations used by other plants.

In one plant of 500 employees where group insurance was carried with employee contributions, a refund was received from the insurance company because there were no losses. The management used this refund to purchase shares in a newly formed employees' credit union and distributed these shares to the employees. Only two years have elapsed, but the employees have learned some of the problems of management from operation of their own credit union. Company officials are unanimously agreed that formation of the employees' credit union has done more to cement goodwill than considerable effort expended in other directions.

An independent union approached the management of a plant of 2,500 employees with a request for group insurance. After meetings between the union representatives and company management, a plan was evolved whereby, in the event of death of an employee, each employee would contribute \$1.00 to a fund and the company would contribute \$500. This created a fund of approximately \$3,000 to be paid to the employee's estate. The plan has been in effect for three years and while it violates the theory of actuarial science, it has worked remarkably well in practice. The company reserves an equal amount to what would be paid under a group insurance plan and charges to this reserve leave it with a substantial credit balance.

A third company with 650 employees conducts quarterly educational meetings for employees. The company stock is not listed. These meetings are held after work, a buffet supper is served, and the evening is spent in discussing the company operations. In addition to company operations, general economic conditions are discussed

with particular reference to taxation. An employees' edition of financial statements is issued and distributed to employees. These special editions list the assets and liabilities of the company with explanations which the average employee can understand. Each asset is broken down to show the investment in each employee. In this particular company, the asset investment for each employee totals \$5,760.71. The employee is able to readily determine that a sizable investment is required to keep him employed. An analysis of each \$1.00 of sales is shown with the resulting profit, dividends, and amount reinvested in the business. The president, in his report to employees, stated "that the employees have as much interest in the company and its welfare as the stockholders." Thus, employees are kept advised of all factors affecting employment and their interest in the company.

At these meetings, manufacturing operations, methods of securing business, expense control, and the like, are discussed. The employees take a keen interest in the management of the business, and the close contact of labor and management has ironed out differences that often arise.

Industrial relations probably require a different prescription in each plant to cure the existing ills, but knowing what other companies are doing will go a long way in writing the prescription.

Industrial Accident Record, Welfare Programs, Labor Turnover, etc.

While on the subject of industrial relations, it is apropos to consider accident records, welfare programs, labor turnover and the like. In this classification, we again find items of expense that are handled on a distinctly individual basis without any semblance of standardization. While it is true that numerous articles have been written about safety and accident prevention, visits to other plants will give you new thoughts and possibly specific prevention methods.

Recently, I had occasion to listen to a discussion in which the executive of a large plant contended that large companies have established better welfare programs than smaller companies. The executive of the smaller company contended that this was not true and pointed out that smaller companies were far in the lead in the matter of welfare programs. As a result of the discussion, each executive learned some new methods of welfare which were of advantage to both. A discussion led to co-operation and both executives were benefited.

Labor Turnover

While seniority rules have settled the problem of labor turnover to some extent, there is still a large amount of it, particularly with skilled workers, with the likelihood that turnover will increase as demand for labor increases. No attempt shall be made in this paper to solve the ever-perplexing problem at this time. The item is merely cited as one for study on co-operative visits to other plants. It will be admitted by all that the cost of labor turnover has often been a direct factor of increased production cost and any suggestions or thoughts that will minimize this expense will repay for the time spent in learning what others are doing with respect to this troublesome factor. Unemployment insurance in some states also becomes an increased expense from excessive labor turnover.

Insurance

If we were to conduct a radio quiz program at this time and ask each of you to discuss the various kinds of insurance coverage, the cost of this coverage, the ratio of insurance cost to sales in your own plant, few would be in a position to answer these questions without embarrassment. There are, of course, those companies whose executives have made an exhaustive study of the whole insurance problem with resulting savings in insurance cost. In some cases, a complete overhauling of insurance placement has been necessary to effect reductions. To be an insurance expert is a vocation in itself and accountants cannot be expected to have a full knowledge about rates, coverage, and the many intricate principles associated with insurance. Accountants should be expected to know whether the ratio of insurance cost is in line with other companies and what steps may be taken to correct excess insurance costs. This knowledge may be gained by studies of other insurance programs, comparison of cost, kind of insurance carried, and innumerable items related to insurance. Insurance has been accepted as a necessary expense too many times, without sufficient effort put forth to take advantage of obvious savings. One illustration of insurance loss was the form of report used by a company segregating equipment for insurance purposes. It was found, upon the basis of the report, that the company was insuring tools and dies that were permanently stored in plants of vendors without mention of location. Excess premiums had been paid a number of years without any chance of collecting for losses. This in itself is a common error of insurance and there are many others equally

obvious. A study of two or three systems of insurance would in all probability enable you to receive sufficient information to pay liberal dividends for the time invested.

Sales for Entire Industry

The automobile companies, steel companies and others, publish sufficient data to enable statisticians to determine the proportion of total industry sales for each company in the industry. This information proves of specific value in enabling each company to determine its place in the field and to measure its progress year by year. There are numerous companies that make no attempt to rate themselves as compared to others. While it is distinctly popular to be an individualist in these days of regimentation, it follows that considerable benefit will accrue to these companies through co-operation.

Accountants for companies not able to secure information of this nature through published channels could render a distinct service to management by securing this and other vital statistical information through co-operation.

Many of you have seen or receive the releases sponsored by the Securities and Exchange Commission giving in comparative form most intimate and interesting information with respect to the members of an industry. These releases have made available in easily understood form, facts and information not previously available. These releases substantiate the theory expounded today that co-operation really has unlimited benefits.

The releases setting forth selected information on manufacturers of agricultural machinery and implements include ten companies of this industry; the automobile industry includes ten companies; the manufacturers of automobile parts and accessories include eighty-four companies; the chain grocery and food stores include fourteen companies; the chain variety stores include ten companies, and so on.

The following excerpts are quoted from the Preface of these releases :

The present study is, therefore, an attempt to bridge in some measure the gap between these valuable data and the many potential users to whom the data are now relatively unavailable.

Both financial and non-financial information has been gathered and is presented in the reports.

The financial information presented includes balance sheets, profit and loss statements, selected expense items, and surplus reconciliations.

Those of you who have used these releases to compare the status of your own company with others in the industry do not need to be convinced that co-operation really does pay.

Certain information not available in releases of this nature would be available through co-operative effort of the executive accountants of an industry.

Sales of Each Company and Ratio to Total Industry

The relative position of each company of an industry should be a matter of common knowledge to all companies in the industry. Therefore, if each company knew the sales of all other companies in the industry, changes in position from year to year would be apparent to all. Taken as a whole, the industry would have accurate data to determine if expansion were necessary, or if the industry as a whole indicates that the peak had been reached. With information of this nature at hand, it would show changing positions in the industry because of managerial efficiency. This kind of information is available in the automobile industry from car registrations, and the fact that each company knows the sales of other companies has acted as an incentive to secure a better volume of available business.

As a further aid to management, various ratios, such as net profit to sales, net profit to tangible net worth, net profit to working capital, and net sales to capital assets, would be helpful in rating each company, and putting the spotlight on the weak links of the industry. Strengthening of these links would be strengthening the industry.

Many companies lay stress on turnover as a guide for operating results. When studying sales for the industry, consideration may be given to various turnovers. Tangible net worth to annual sales will be a useful barometer in comparing investment with income. Working capital to sales will indicate the rapidity of turnover for the different companies of the industry. Minor turnover figures such as the conventional inventory turnover will be useful. By the same token, such data as the average collection period for receivables will provide good information for comparison.

Cost for Entire Industry and Ratio to Sales

While it has been pointed out that any attempt to regulate or control prices in an industry would probably be illegal, the most convincing evidence of a poor price structure would be a composite picture

to reflect total costs for the industry in relation to sales. This information would quickly reflect if the industry as a whole were operating on a satisfactory profit basis or if sales were being made merely to exchange dollars. Statistics of this kind are always subject to analysis because the profits of well-managed companies may be offset by losses of companies with less efficient management. Combined figures may indicate a neutral profit condition because of losses of some companies. There is no question but that the weaker companies would be helped by information of this character and the information available to the weaker companies would accrue to the benefit of the industry as a whole.

If the total costs of each company were compared with the sales and the various ratios were made available to members of the industry, enlightening information would be available which, to say the least, would be startling in character. Moreover, if the total costs of each company were presented in sufficient detail to make known the cost of materials, labor, burden, and other expense classifications, there is no estimating the changes that would be initiated. Showing the details of burden to the sales dollar, production unit or productive hour would disclose the reason why some companies pay less income tax than they normally would. The legion of information about costs and operating conditions that could be obtained through proper co-operation is without end. While the picture presented may be considered as "hitching your wagon to a star," it merely requires co-operation on the part of executive accountants to make it a reality rather than a theory.

Tax Research

A splendid illustration of co-operation is evidenced by the fact that numerous large companies have made sizable contributions to committees in various states to undertake a study of the factors contributing to higher personal property, city, state and county taxes. By making constructive suggestions to the proper governmental authorities, large sums have been eliminated from the tax rolls. While the study is still in its infancy, the results accomplished to date have been so encouraging that there is no question but that the companies shall continue to co-operate in order to conquer a common foe.

While the reduction of tax levies will be welcome to all companies, it is submitted that co-operation of some companies with respect to

tax reduction operates to bring monetary savings to all taxpayers. The companies receiving the advantages of lower taxes should be convinced that co-operation really pays.

War Orders

Manufacturers are confronted with new problems by virtue of orders received for the armament program. The problems are apparent to the members of an industry. Production of parts never before produced, acquisition of new equipment, rearrangement of equipment, division of production between commercial orders and war orders—these are but a few of the problems immediately before manufacturers. Segregation of cost records, allocation of burden, allowance of deductible versus non-deductible expense items place the accounting department on the threshold of new procedures.

Manifestly, present-day conditions offer an outstanding illustration of the need of co-operation. The submission of plans for discussion by companies facing similar conditions will help solve some of these knotty problems that are bound to exist. Solution of these problems through co-operation will speed up production, reduce costs, simplify accounting procedures and enable the taxpayer customer to get more for his money.

Conclusion

The co-operation suggested in this paper calls for a meeting of the minds of executive accountants to outline general policies for an industry. It assumes a real discussion of common problems to clarify wrong beliefs or lack of knowledge that now exists on the part of some companies in practically all industries. When fundamental policies have been approved, there should be superimposed individual visits by accountants to other plants to study in detail the procedures followed. From these visits, it is hoped that sufficient information will be gathered to revise some of the current procedures now in use.

Mr. W. B. Lawrence, Director of the Cost Accounting and Statistical Department of the American Photo-Engravers Association, stated in a recent letter:

We are gradually getting away from compiling and publishing cost data. Such data served a useful purpose up to about six years ago, but since then its usefulness has, in our opinion, been destroyed by changes that have taken place in the industrial situation. Conditions today in

industry are such that publication of average, high, low or medium costs is virtually worthless, either as a guide to business or for educational purposes.

We are turning more and more to the idea that cost is strictly an individual proposition for each establishment, and that averages of any kind are of little value for the guidance of a manufacturer. We consider that the greatest service we can render is to get our people to use their own individual cost systems and study their own individual cost figures. We feel that if they do that, they will be adequately prepared to meet any conditions that may arise.

Mr. Lawrence has given expression to a splendid thought. By co-operation we do not mean throwing a lot of figures into a hat and averaging them to let a company determine its position in an industry. Co-operation must be far more personal and deal with individual procedures and methods.

Co-operation on a bulk scale is illustrated by plant visitations at the National Convention and on the part of chapters. These meetings have always proved popular because of the opportunity to learn how the other fellow does it. Unfortunately, plant visitations in large groups must of necessity treat with generalities and not specific procedures. If these plant visitations were reduced to visits by individuals to plants in their own industry, consider, if you please, the added knowledge that would be gained.

Companies that now follow modern business procedures may give out more than they will receive. There remains the thought that the additional thinking and planning will quicken sound accounting practices in an industry. If this goal can be reached, co-operation of accountants will prove its value to management. While in the past, accounting has served management efficiently, it may be expected to serve even more efficiently in the future with proper co-operation.

CHAIRMAN DOWNIE: We promised you folks that the meeting this afternoon was going to end on time, and it is going to end on time. It is approximately ten minutes to four, so we are going to dispense with the question period. If anyone has a specific question he wants to ask, I am sure either Mr. Walsh or Mr. Steffen will be glad to answer you immediately after the meeting. So many of our members have to catch early trains this evening, that we are going to dispense with the question period.

I am glad to turn the meeting over at this time to President Howard Knapp.

PRESIDENT KNAPP: The time has come to close this Twenty-first Annual Convention of the National Association of Cost Accountants.

I am sure you will agree with me that the Program Committee is entitled to a great deal of pride in their accomplishment, both from the standpoint of the subjects selected, the caliber of speakers arranged for, and the attendance at all the meetings. I don't know just what the facts are, but I venture the opinion that the technical sessions here in St. Louis have probably reached the highest point of attendance we have ever had.

We have ahead of us a most unusual year, a year in which unusual problems are going to confront us. There probably never was a time when there was so much uncertainty as to the movement of events. That means for us there will be more problems than ever, and probably greater opportunities in a great many ways.

It has already been decided that our next convention will be held in New York City at this same relative part of the month of June. I believe the beginning date is June 23. Let all of us look forward to that convention in the hope that it will create another milepost in the history of our Association.

I would like Dr. McLeod to have a word to say at this time.

SECRETARY MCLEOD: Gentlemen, we do not want to detain you unnecessarily.

We had a meeting of our National Board of Directors at noon today, and I was instructed by the Board to present at this final meeting a resolution from the Board expressing our appreciation to the St. Louis Committee for the magnificent job they have done in organizing and conducting this convention.

Mr. Sam Marsh was the General Chairman. He had associated with him as Co-Chairman Mr. George Ebert and Mr. Lester Kincaid, and Mr. John Lang as the Financial Chairman. Working with them they had a group which it would be impossible for me to list. Every one of these men gave everything he had to put this meeting over, and I think they have done a grand job. It has been one of the best organized conventions we have ever held. We are deeply grateful to you, Sam, for what you have done.

CHAIRMAN MARSH: It has been our pleasure and privilege to entertain you this year. We promised Doc McLeod and the National Board that if you would come out West, we would try to do a good

job. I believe we have succeeded in view of all the expressions that already have been made. It is indeed a pleasure to have had you with us, and my only regret is that the entire committee and their assistants are not here to accept this instead of myself.

I do want to express, too, my appreciation to Mr. and Mrs. Norman Kerth for the marvelous way in which they helped us. Norman, I wish you would rise and take a bow. And to Charles Maxson for doing a good job and working hard. Our satisfaction has been in doing a good job, and our reward has been your thanks and appreciation.

I just discovered a moment ago that the total registration was 1,006. Now I can go home happy.

PRESIDENT KNAPP: On behalf of the National Officers, the National Board, the Program Technical Committee, and the speakers who have been here at this convention, I want to thank this audience for its attentive attitude and its appearance in such numbers. As long as we are able to improve the caliber of our convention sessions each year, I think we need have no fear of accounting going in other than the right direction.

It is now my sorrowful duty to declare the Twenty-first Annual Convention of the National Association of Cost Accountants adjourned.

... The meeting adjourned at four o'clock ...

